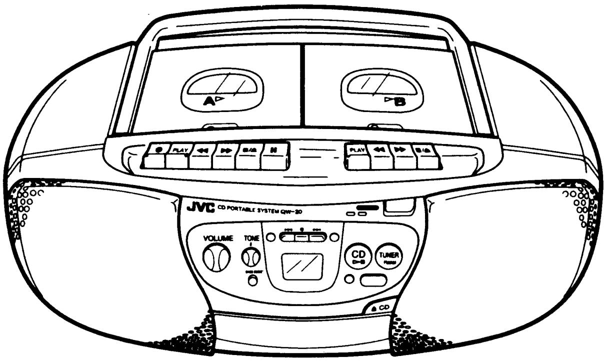
JVC

SERVICE MANUAL

CD PORTABLE SYSTEM

RC-QW20BK B/E/EN/G/GI



COMPACT
disc
DIGITAL AUDIO

Area Suffix	
B	U.K.
E	Continental Europe
EN	Northern Europe
G	Germany
GI	Italy

- **This model has a convenient self-diagnosis function for CD section.**

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No. 1959
March 1996

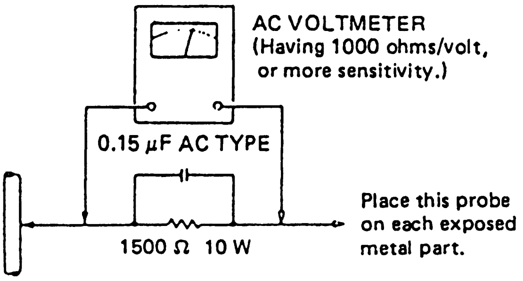
■ Safety Precautios

1. The design this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacture's warranty and will further relieve the manufacture of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the product have special safety — related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of service manual. Electrical components having such features are identified by shading(▨) and(⚠)on the schematic diagram and by (⚠) on the parts list in the service manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of service manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps , tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after reassembling.
5. Leakage current check (Electrical shock hazard testing)

   After re — assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock. Do not use a line isolation transformer during this check.

   - Plug the AC line cord directly into the AC outlet. using a"Leakage current tester", measure the leakage current from each exposed metal part of the cabinet, particulary any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exposeed 0.5mA AC(r.m.s.)
   - Alternate check method

     Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500 ohms 10W resistor paralleled by a 0.15 μ F AC type capacitor between an exposed metal part and a known good earth ground. Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75V AC(r.m.s.).This corresponds to 0.5mA AC(r.m.s.).


AC VOLTMETER
(Having 1000 ohms/volt, or more sensitivity.)
0.15 μF AC TYPE
1500 Ω 10 W
Place this probe on each exposed metal part.

◆ Warning (UK only)

1. This equipment has been designed and manufactured to meet international safety standards.

2. It is the legal responsibility of the repairer to ensure that these safety standards are maintaintained.

3. Repairs must be made in accordance with the relevant safety standards.

4. It is essential that safety critical components are replaced by approved parts.

5. If mains voltage selector is provided, check setting for local voltage.

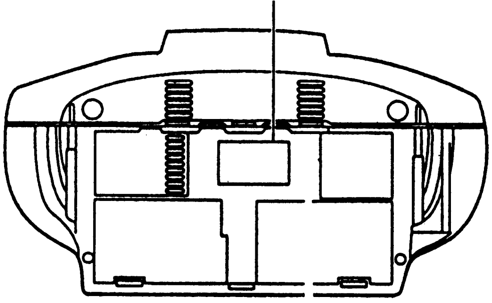
Safety Precautios

IMPORTANT FOR LASER PRODUCTS

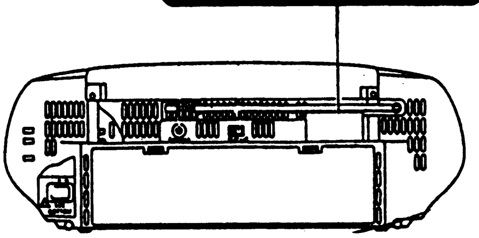
PRECAUTIONS

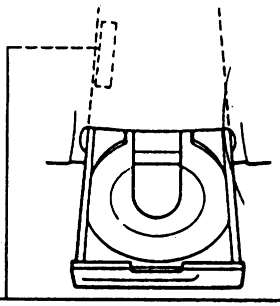
1. CLASS 1 LASER PRODUCT
2. **DANGER:** Invisible laser radiation when open and interlock failed or defeated. Avoid direct exposure to beam.
3. **CAUTION:** Do not open the rear cover. There are no user serviceable parts inside the unit; leave all servicing to qualified service personnel.
4. **CAUTION:** The compact disc player uses invisible laser radiation and is equipped with safety switches which prevent the emission of radiation when the CD tray is open. It is dangerous to defeat the safety switches.
5. **CAUTION:** Use of controls for adjustments and the performance of procedures other than those specified herein may result in exposure to hazardous radiation.

Name/Rating plate



CLASS 1
LASER PRODUCT





DANGER: Invisible laser radiation when open and interlock failed or defeated AVOID DIRECT EXPOSURE TO BEAM. (e)	ADVARSEL: Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgåudsættelse for stråling. (d)	VARNING: Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen. (s)	VARO: Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen. (f)

ADVERSEL: Usynlig laserstråling ved åbning. når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VAROITUS: Varmuuskytkimen oliessa pois päältä kun laite avataan, siellä kehittyy näkymätöbtä lasersäteilä. Älä pane itseäsi säteilyn altiiksi.

VARNING: Osynlig laserståining uppstår vid komponentens öppning när säkerhetsbrytaren är frånslagen.

ADVARSEL: Usynling laserstråling ved åpning når sikkerhetsbryteren er ude af funktion Unngå utsettelse for stråling.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION "TO REDUCE THE RISK OF ELECTRIC
SHOCK DO NOT REMOVE COVER (OR BACK)
NO USER SERVICEABLE PARTS INSIDE
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL."

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

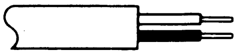
**IMPORTANT (In the United Kingdom)
Mains Supply (AC 230 V ~, 50 Hz only)**

DO NOT cut off the mains plug from this equipment. If the plug fitted is not suitable for the power points in your home or the cable is too short to reach a power point, then obtain an appropriate safety approved extension lead or consult your dealer.
BE SURE to replace the fuse only with an identical approved type, as originally fitted and to replace the fuse cover.
If nonetheless the mains plug is cut off ensure to remove the fuse and dispose of the plug immediately, to avoid a possible shock hazard by inadvertent connection to the mains supply.

IMPORTANT

DO NOT make any connection to the terminal which is marked with the letter E or by the safety earth symbol or coloured green or green-and-yellow.

The wires in the mains lead on this product are coloured in accordance with the following code:



Blue to N (Neutral) or Black
Brown to L (Live) or Red

As these colours may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.

The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

IF IN DOUBT-CONSULT A COMPETENT ELECTRICIAN.

Important control point concering safety

1. Check the power transformer marking, and check that the power transformer is securely installed.
   Parts number: V-2409T-B

2. Check the power cord marking, and check that the powr cord is not externally damaged.

	B VERSION	E/G/GI/EN VERSION
Cord mark:	BS6500	◁ VDE ▷
Attachment plug:	ASTABEF179	KP-419C
Connect plug:	M1250A	KS-15E

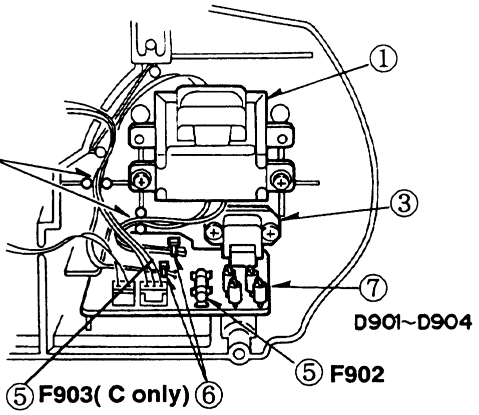
3. Check the AC socket marking, and check that the AC socket is tightly fixed in the P.C.board when installed. HSC1466.

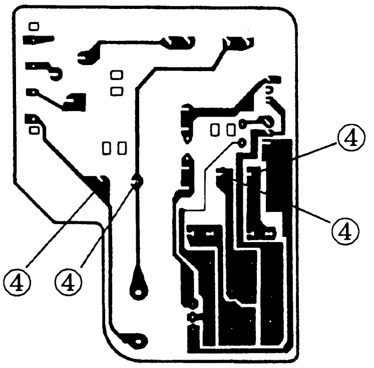
4. Check that there is sufficient space for the primary and adjacent secondary terminal parts on the P.C.board (There should be no protrusions of solder or terminal wires.)

5. Check the rated fuse display, and check that the fuse is secure in the fuse holder. F902 P: T2.5 A / 250 V

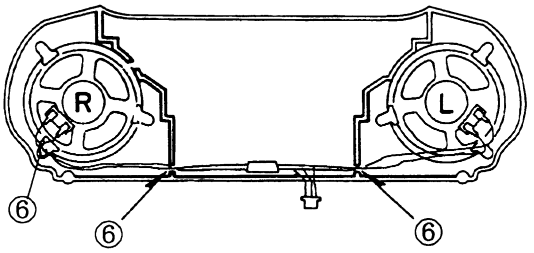
6. Check that the wires are neatly arranged so that they do not interfere with sections involving power, moving parts, heat generation, or those with sharp-edged parts.

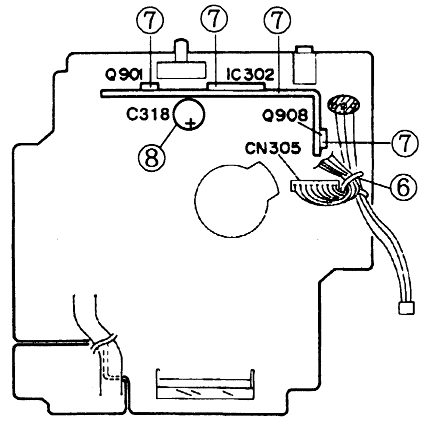
7. The following parts are important for safety in such operations as those involved with heat generation. Use the specified parts and check original shape. Heat generating parts should be suspended above the P.C.board not fallen down. Parts marked with ☐ are safety control parts.
   IC302., HEAT SINK, D901, D902, D903, D904, Q901, Q908, Q906, IC502, R122, R222,



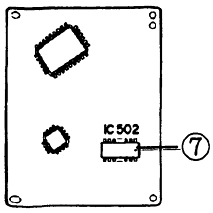


Power supply board

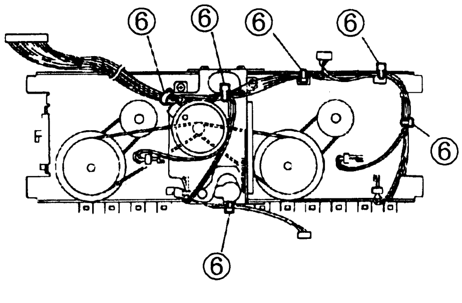




Main board



CD amplifier board



TROUBLESHOOTING

What appears to be trouble is not always serious. Make sure first....

1. Power cannot be turned on.
   - Is the power cord unplugged?
2. No sound from the speakers.
   - Are headphones connected?

- CD Player Section

3. The CD player does not play.
   - Is the disc upside down?
   - Is the disc dirty?
4. A certain portion of the disc does not play correctly.
   - Is the disc scratched?

- Cassette Deck Section

5. Playback sound is at a very low level.
   - Is the head dirty?
6. The ● REC button does not function.
   - Have the safety tabs of the cassette been broken off?

- Tuner Section

7. Reception is noisy.
   - Try adjusting the antenna.

Note:
Before making an important recording, be sure to make a test recording first to check that the deck, etc. is working correctly.

SPECIFICATIONS

Compact disc player section	
Type	: Compact disc player
Signal detection	: Non-contact optical pickup
Number of channels	: 2 channels
Frequency range	: 20 Hz – 20,000 Hz
Signal-to-noise ratio	: 90 dB
Wow & flutter	: Less than measurable limit
Radio section	
Frequency ranges	: FM: 87.5 – 108 MHz AM: 522 – 1,629 kHz
Antennas	: Telescopic antenna for FM Ferrite core antenna for AM
Tape deck section	
Track system	: 4-track 2-channel stereo
Motor	: Electronic governor DC motor for capstan
Heads	: (RC-QW20) Deck A; Hard permalloy head for recording/playback, Magnetic head for erasure Deck B; Hard permalloy head for playback (RC-QS10) Hard permalloy head for recording/playback, Magnetic head for erasure
Frequency response	: 80 – 12,500 Hz
Wow and flutter	: 0.15% (WRMS)
Fast wind time	: Approx. 120 sec (C-60 cassette)
General	
Speaker	: 10 cm x 2
Power output	: Max. 10 W (5 W + 5 W) at 3 Ω 8 W (4 W + 4 W) at 3 Ω (10% THD)
Output jacks	: Headphones (0 – 20 mW/ch, 32 Ω) (matching impedance 16 Ω – 1 kΩ)
Power supply	: AC 230 V, 50 Hz DC 10.5 V ("R20" cell x 7)
Power consumption	: 13 W (with POWER SW ON) 3 W (with POWER SW STANDBY)
Dimensions	: 450 (W) x 165 (H) x 250 (D) mm including knobs
Weight	: (RC-QW20) Approx. 4.7 kg with batteries Approx. 4.0 kg without batteries : (RC-QS10) Approx. 4.5 kg with batteries Approx. 3.8 kg without batteries
Accessories provided	: AC power cord x 1

Design and specifications are subject to change without notice.

RC-QW20/QS10 | CD PORTABLE SYSTEM

JVC

VICTOR COMPANY OF JAPAN, LIMITED

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VNN 5195-671C

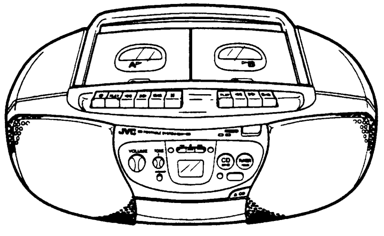
JVC

■ Instructions

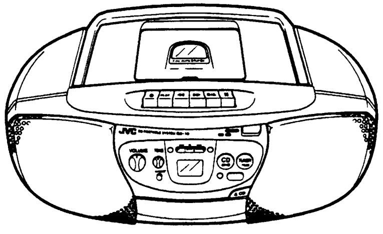
CD PORTABLE SYSTEM

RC-QW20/QS10 B

COMPACT
disc
DIGITAL AUDIO



RC-QW20



RC-QS10

INSTRUCTIONS

RC-QW20BK B/E/EN/G/GI

Thank you for purchasing this JVC product. Please read these instructions carefully before starting operation to be sure to obtain optimum performance and a longer service life from the unit.

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WARNING:
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION . . "TO REDUCE THE RISK OF ELECTRIC
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PRECAUTIONS

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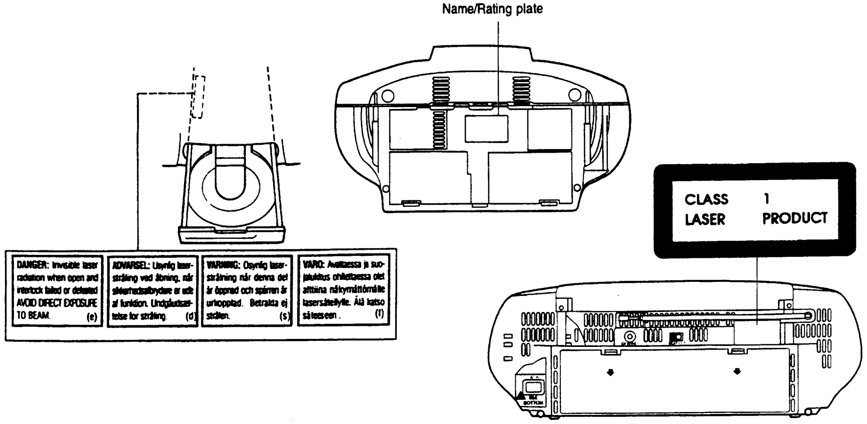
REPRODUCTION OF LABELS AND THEIR LOCATION



DANGER: Invisible laser radiation when open and interlock failed or defeated AVOID DIRECT EXPOSURE TO BEAM. (e)

ADVARSEL: Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling. (d)

VARNING: Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen. (s)

VARO: Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen. (f)

CLASS 1
LASER PRODUCT

IMPORTANT (In the United Kingdom)
Mains Supply (AC 230 V ~, 50 Hz only)

DO NOT cut off the mains plug from this equipment. If the plug fitted is not suitable for the power points in your home or the cable is too short to reach a power point, then obtain an appropriate safety approved extension lead or consult your dealer.
BE SURE to replace the fuse only with an identical approved type, as originally fitted and to replace the fuse cover.
If nonetheless the mains plug is cut off ensure to remove the fuse and dispose of the plug immediately, to avoid a possible shock hazard by inadvertent connection to the mains supply.

IMPORTANT

DO NOT make any connection to the terminal which is marked with the letter E or by the safety earth symbol or coloured green or green-and-yellow.

The wires in the mains lead on this product are coloured in accordance with the following code:

Blue to N (Neutral) or Black
Brown to L (Live) or Red

As these colours may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:

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The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

IF IN DOUBT-CONSULT A COMPETENT ELECTRICIAN.

FEATURES

1. **One-touch operation (COMPU PLAY) (only when AC power is used)**
   - When a source button (CD, tape, or tuner) is pressed, the unit's power is turned on and initiates playback even when the power is set to STANDBY.
2. **Double cassette mechanism (Deck A for recording and playback, Deck B for playback) (RC-QW20)**
   - Synchro-start dubbing function.
   - Relay playback (from Deck B to Deck A).

   Single cassette mechanism (RC-QS10)
3. **2-Band digital synthesizer tuner with 30-station (15 FM and 15 AM) preset capability**
   - Seek/manual tuning.
   - Auto preset tuning.
4. **Bass Boost button for low-frequency sound reproduction**
5. **Beat Cut switch**

SAFETY PRECAUTIONS

Prevention of Electric Shocks, Fire Hazards and Damage

1. Even when the POWER switch is set to STANDBY, a very small current will flow. To save power and for safety when not using the unit for an extended period of time, disconnect the power cord from the household AC outlet.
2. Do not handle the power cord with wet hands.
3. When unplugging from the wall outlet, always grasp and pull the plug, not the power cord.
4. Consult your nearest dealer when damage, disconnection, or contact failure is found with the cord.
5. Do not bend the cord sharply, or pull or twist it.
6. Do not modify the power cord in any manner.
7. Do not remove screws to disassemble the unit and do not touch anything inside the unit to avoid accidents.
8. Do not insert any metallic objects into the unit.
9. Unplug the power cord when there is a possibility of lightning.
10. If water gets inside the unit, unplug the power cord from the outlet and consult your dealer.
11. Do not block the ventilation holes of the unit so that heat can escape.
    Do not install the unit in a badly ventilated place.
12. Since the RC-QW20/QS10 uses a motor-driven CD tray, make sure your hand or other object does not obstruct tray movement.

Power button
When the power cord is connected to a household AC outlet, the power indicator is lit red, indicating STANDBY mode (this indicator does not light when DC power is supplied). When the power is switched on, the indicator turns green showing that the power is on (this indicator lights with both AC and DC power supplies).

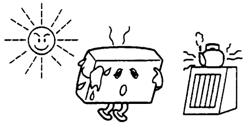
When this unit is plugged into an AC outlet, it consumes a small current to operate, or to back up the memory of the microprocessor, even when the POWER button is set to STANDBY.

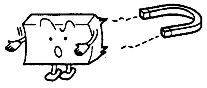
HANDLING PRECAUTIONS

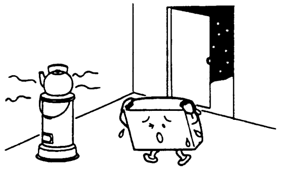
Do not use this unit in direct sunlight or leave the unit in closed automobiles (or yachts, etc.) where it would be exposed to high temperatures above 40°C (104°F).

1. **Avoid installing in the following places.**
   - Where it could be subject to vibrations.
   - Where it is excessively humid, such as in a bathroom.
   - Where it could be magnetized by a magnet or speaker.
2. **Pay attention to dust.**
   Be sure to close the CD tray so that dust does not collect on the lens.
3. **Condensation**
   In the following cases, condensation may occur in the unit, in which case the unit may not operate correctly.
   - In a room where a heater has just been switched on.
   - In a place where there is smoke or high humidity.
   - When the unit is moved directly from a cold to a warm room.

   In these cases, set the POWER switch to ON and wait 1 or 2 hours before use.
4. **Volume setting**
   Compact discs produce very little noise compared with analog records. When the volume control of an amplifier is adjusted by listening to the noise as is done with analog records, the speakers could be damaged by the sudden increase of output when the music starts. Therefore, turn down the volume before starting and adjust as required while playing a CD.
5. **Safety mechanism**
   This unit incorporates a safety interlock mechanism which switches the laser beam on and off, so that when the disc tray is open, the laser beam stops automatically.
6. **Do not place cassette tapes, etc. near the speakers.**
   Since there are magnets in the speakers, do not place tapes or magnetic cards on them as recorded data could be erased.
7. **Keep this unit away from your TV.**
   When this unit is used near a TV, the TV picture could be distorted. If this happens, move this unit away from the TV. If this does not correct the situation, avoid using this unit when the TV is turned on.
8. **Cleaning the cabinet**
   If the cabinet gets dirty, wipe it with a soft, dry cloth. Never use benzine or thinner as these could damage the surface finish.
9. **When listening with headphones**
   - Do not listen at high volumes as it could damage your hearing.
   - For safety, do not drive while listening to this unit.
10. **Carrying handle**
    Do not raise or lower the carrying handle with the telescopic antenna extended, to avoid damaging the antenna. Place the carrying handle so that it does not interfere with operation.







POWER SUPPLY

A. Operation on household AC

- Connect the AC power cord.

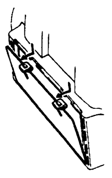
CAUTIONS:

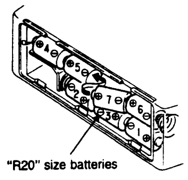
1. **ONLY USE WITH JVC POWER CORD PROVIDED WITH THIS UNIT TO AVOID MALFUNCTION OR DAMAGE TO THE UNIT. REMOVE BATTERIES WHEN USING THE POWER CORD.**
2. **BE SURE TO UNPLUG THE POWER CORD FROM THE OUTLET WHEN GOING OUT OR WHEN THE UNIT IS NOT IN USE FOR AN EXTENDED PERIOD OF TIME.**

B. Operation on batteries

- **Loading batteries**

1. Open the battery cover by pulling it toward you while pressing the sections marked by the arrows.
2. Insert seven "R20" size batteries as shown in the diagram.
   * Be careful to insert the batteries with the ⊕ and ⊖ terminals positioned correctly.
3. Replace the cover.





Checking batteries

When the tape speed or output sound decreases, or CD playback is intermittent, replace all batteries with fresh ones. When making an important recording, use new batteries (preferably alkaline batteries with a longer service life) to avoid any possible failure.

- For better battery usage
  Continuous operation of the unit causes the battery power to be consumed quicker than noncontinuous operation.
  Operation of the unit in a cold place causes the battery power to be consumed more quickly than in a warm place.

CAUTIONS:

- **WHEN NOT USING THE UNIT FOR A LONG TIME (MORE THAN TWO WEEKS) OR WHEN ALWAYS USING HOUSHOLD AC, REMOVE THE BATTERIES TO AVOID A MALFUNCTION OR DAMAGE TO THE UNIT.**
- **WHEN THE JVC POWER CORD PROVIDED WITH THIS UNIT IS CONNECTED, THE POWER IS AUTOMATICALLY SWITCHED FROM THE BATTERIES TO THE HOUSEHOLD AC EVEN WHEN THE BATTERIES ARE LOADED. HOWEVER, REMOVE THE BATTERIES WHEN USING THE POWER CORD.**

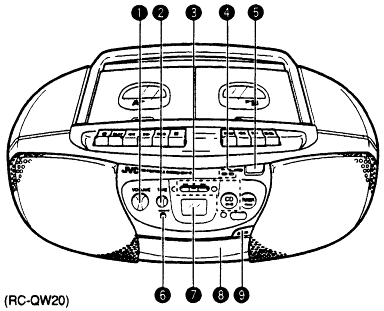
CAUTIONS WHEN USING BATTERIES:
When batteries are used incorrectly, it may result in the leakage of chemicals from the batteries or they may explode.
The following care should be taken;

- Check that the positive ⊕ and negative ⊖ terminals of the batteries are positioned correctly and load them as shown in the diagram.
- Do not mix new and old batteries together, or mix different types of batteries.
- Do not try to recharge non-rechargeable batteries.
- Remove the batteries when the unit is not to be used for an extended period of time.

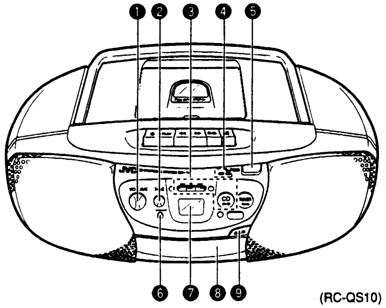
If chemicals from the batteries come in contact with your skin, wash them off immediately with water. If chemicals leak onto the unit, clean the unit completely.

NAMES OF PARTS AND THEIR FUNCTIONS

CD player/General section

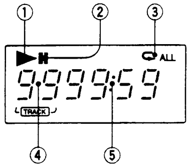


(RC-QW20)



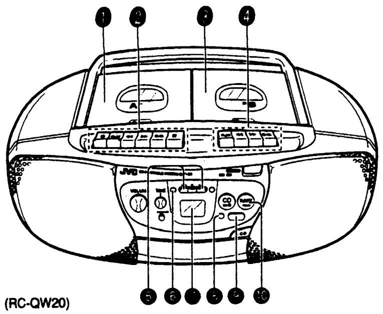
(RC-QS10)

❼

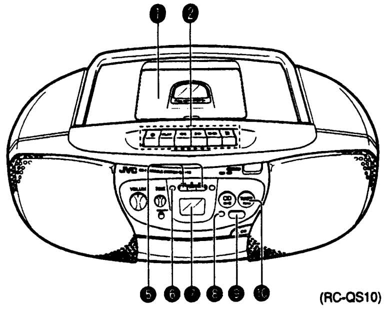


❶ VOLUME control
❷ TONE control
❸ CD operation buttons
Search buttons (◀◀, ▶▶)
Stop/clear button (■)
REPEAT button
Play/pause button (CD/▷❚❚)
❹ POWER indicators
GREEN: POWER ON
RED: STANDBY
❺ POWER button
❻ BASS BOOST button
▬ ON: Set to this position to listen to BASS BOOST sound.
▬ OFF: Set to this position when BASS BOOST sound is not required.
❼ Display window
① Playback indicator (▶)
② Pause indicator (❚❚)
③ Repeat playback indicator (⊂ ALL)
④ Track number display
⑤ Playback time display
❽ CD tray
❾ CD tray open/close button (⏏)

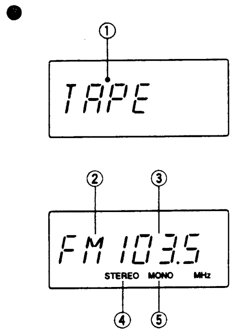
Deck/Tuner section



(RC-QW20)

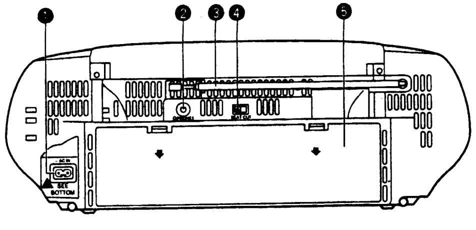


(RC-QS10)



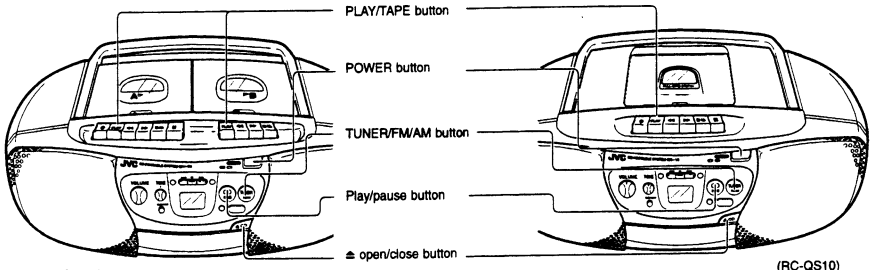
❶ Cassette holder (Deck A) (RC-QW20)
Cassette holder (RC-QS10)
❷ Cassette operation buttons (from left to right)
● REC : Press this button with PLAY/TAPE button to start recording.
PLAY/TAPE : Press to play the tape.
◀◀ : Press to rewind the tape rapidly.
▶▶ : Press to wind the tape forward rapidly.
■/⏏
STOP/EJECT : Press to stop the tape. Pressing this button when the tape has stopped opens the cassette holder.
❚❚PAUSE : Press to stop the tape momentarily. Press again to release the pause mode.
❸ Cassette holder (Deck B) (RC-QW20)
❹ Cassette operation buttons (from left fo right) (RC-QW20)
PLAY/TAPE : Press to play the tape.
◀◀ : Press to rewind the tape rapidly.
▶▶ : Press to wind the tape forward rapidly.
■/⏏
STOP/EJECT : Press to stop the tape. Pressing this button when the tape has stopped opens the cassette holder.
❺ TUNING buttons (UP/DOWN)
❻ MEMORY button
❼ Display window
① Tape mode display
② Band indicator (FM/AM)
③ Radio frequency display
Preset station display
④ STEREO indicator
⑤ MONO indicator
❽ STEREO button (AUTO/MONO)
❾ PRESET TUNING (●) button
AUTO PRESET (—) button
❿ TUNER/FM/AM button
Press to select TUNER mode.
Press to select the band (FM/AM).

Rear panel



❶ AC IN (AC Input) jack
❷ Headphones jack (PHONES) (3.5 mm dia. stereo mini)
Connect headphones (with impedance 16 Ω – 1 kΩ) to this jack. The speakers are automatically switched off when the headphones are connected.
❸ Telescopic antenna
❹ BEAT CUT switch
❺ Battery compartment cover

SWITCHING THE POWER ON/OFF

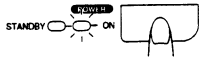


(RC-QW20)

(RC-QS10)

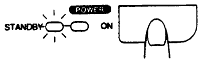
Switching the power on/off

- Switching on:



The green indicator lights.

- Switching off:



The red indicator lights. (The indicator does not light when DC power is supplied.)

COMPU PLAY (only when AC power is used)

Even when the power is set to STANDBY, pressing the button shown below switches on the power and selects the source.

	Function mode	Operations
CD ▷II	CD	When this button is pressed with a CD loaded, CD playback begins.
(RC-QW20) PLAY Deck A or Deck B PLAY (RC-QS10) PLAY	TAPE	When this button is pressed with a tape loaded, tape playback begins.
TUNER FM/AM	TUNER	When this button is pressed, the tuner is engaged.

- When the CD tray Open/close (⏏) button is pressed, the source sound does not switch over, the CD tray can open or close.

Notes:
1. When switching off the power, be sure to press the POWER button. (When the POWER is switched off with the CD tray open, the CD tray is closed and then the power is switched off.)
2. Position the front panel away from you when carrying this unit to avoid accidentally pressing the POWER button.

CONCERNING COMPACT DISCS

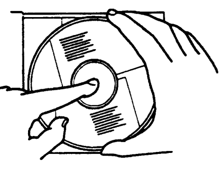
Since dirty, damaged and warped discs may damage the unit, care should be taken of the following:

1. **Usable compact discs**
   Use compact discs with the mark shown.
2. **Notes on handling discs**
   - Do not touch the reflective recorded surface.
   - Do not stick anything to or write anything on the label side.
   - Do not bend compact discs.
3. **Storage**
   - After removing a disc form the unit, be sure to put it back in its case.
   - Do not expose discs to direct sunlight, high temperatures from a heater, etc., high humidity, or dust.
4. **Cleaning discs**
   Before loading a disc, wipe off any dust, dirt or fingerprints with a soft cloth. Discs should be cleaned by wiping radially, from the center to the edge.

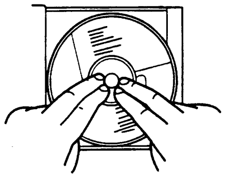
- **Never use thinner, benzine, record cleaner or antistatic spray.**

COMPACT
disc
DIGITAL AUDIO

• Removing the disc from its storage case and loading it.

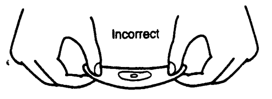


• Press the center and lift out.

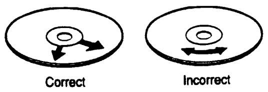


• Press to secure the CD.

• Handling



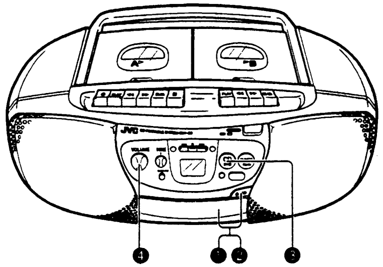
• Cleaning



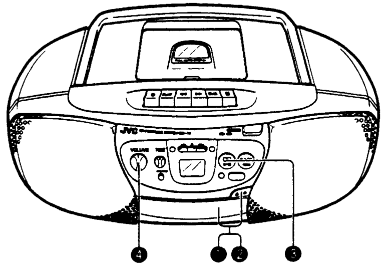
PLAYING COMPACT DISCS

Playing an entire disc ... The following example assumes a compact disc with 12 tunes and a total playing time of 48 minutes 57 seconds.

Operate in the order shown.



(RC-QW20)



(RC-QS10)

❶ Press to open the CD tray. (The power is switched ON when AC power is supplied.)
   - When battery power is used, switch on the POWER button first, then perform operations.

❷ Load a disc with the label side facing up. Press to close the CD tray. (The tray can be closed by pressing the ▷II button.)

❸ Press to start play.

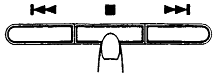
❹ Adjust.

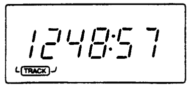
- 8-cm (3-3/16") compact discs can be used in this unit without an adapter.

Note:
When the CD tray is closed by pressing the ▷II button, the CD starts playing as soon as the tray is closed.

To stop play

- **To stop in the middle of a disc**
  During playback, press the ■/Clear button to stop play.

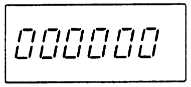




- The total number of tracks (tunes) and total playing time are displayed.

- **To stop a disc temporarily**
  Press the ▷II button to stop play temporarily. When pressed again, play resumes from the point where it was paused.

Notes:
- The following indication may be shown when a disc is dirty or scratched, or when the disc is loaded upside down. In such a case, check the disc and insert again after cleaning the disc or turning it over.
- When a CD is not loaded in the tray or when "000000" is displayed, the CD tray opens when the ▷II button is pressed.



- **Do not use the unit at excessive high or cold temperatures. The recommended temperature range is from 5°C (41°F) to 35°C (95°F).**
- After playback, unload the disc and close the CD tray.
- If mistracking occurs during play, lower the volume.
- Mistracking may occur if a strong shock is applied to the unit or if is used in a place subject to vibrations (i.e. in a car travelling on a rough road).

Skip playback

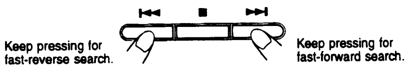
- During playback, it is possible to skip forward to the beginning of the next tune or back to the beginning of the tune being played or the previous tune; when the beginning of the required tune has been located, play starts automatically.

To listen to the next tune ...
Press the ⏭ button once to skip to the beginning of the next tune.

To listen to the previous tune ...
Press the ⏮ button to skip to the beginning of the tune being played back and press again to skip to the beginning of the previous tune.

Search playback (to locate the required position on the disc)

- The required position can be located using fast-forward or reverse search while playing a disc.

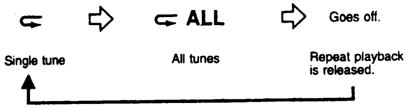

⏮
■
⏭
Keep pressing for fast-reverse search.
Keep pressing for fast-forward search.

- Hold down the button; search play starts slowly and then gradually increases in speed.
- Since low-volume sound (at about one quarter of the normal level) can be heard in the search mode, monitor the sound and release the button when the required position is located.

Repeat play

Press the REPEAT button before or during play. A single tune or all the tunes can be repeated.

Whether a single tune or all tunes are to be repeated can be specified. Each time the REPEAT button is pressed, the mode will change from a single tune (⊊), to all the tunes (⊊ ALL), to the clear mode, in this order.



- **Repeat playback of a single tune (⊊)**
  The tune being played back will be heard repeatedly.
- **Repeat playback of all tunes (⊊ ALL)**
  When playing back an entire disc, all tunes will be heard repeatedly.

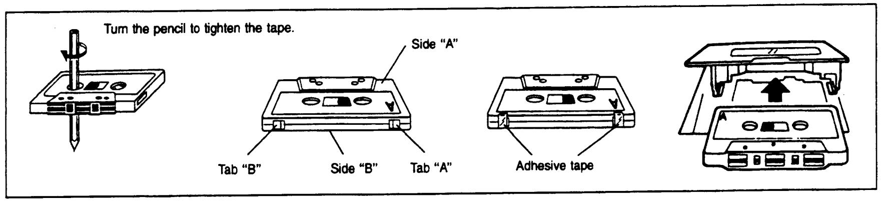
CASSETTE TAPE

Cassette tape

1. Loose tape may cause trouble. With a pencil, gently tighten the tape as shown.
2. To prevent recordings from being erased accidentally, remove the tab(s) with a screwdriver. Reseal the slots with adhesive tape to erase and re-record after the tabs have been broken off.

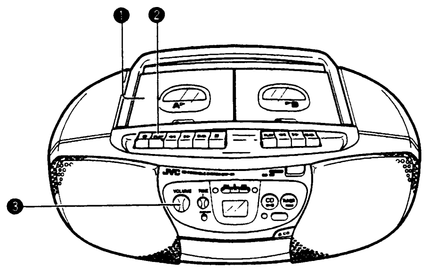
Cassette loading

1. Press the STOP/EJECT (■/⏏) button to open the cassette holder.
2. Load a cassette as shown.
3. Close the cassette holder by pressing it gently. Listen for the click that tells you that you've closed the holder securely.

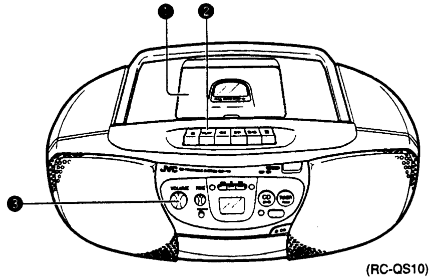


CASSETTE PLAYBACK

Operate in the order shown.



(RC-QW20)



(RC-QS10)

❶ Load a cassette tape.
❷ Press to start playback. (The power is switched on, TAPE mode is engaged and tape playback starts.)
  - When battery power is used, switch on the POWER button first, then perform operations.

❸ Adjust.

- **Playback in Deck B (RC-QW20 only)**
  The previous procedures ❷ also apply to Deck B when a cassette is loaded in Deck B. When Decks A and B are simultaneously set to the play mode, only the playback sound of Deck B is heard.

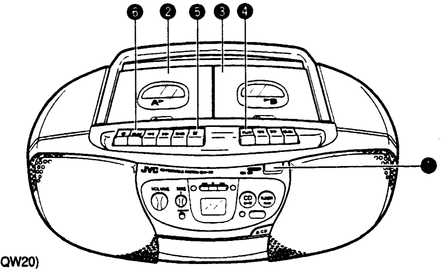
Notes:

1. When the power is turned off while the tape is still running, cassette operation buttons which are depressed do not return to the original positions.
   Press the ■/⏏ STOP/EJECT button to stop the tape running before turning off the power.
2. Avoid operating the ►► or ◄◄ button on the deck during playback of the other deck. (RC-QW20)

RELAY PLAYBACK (RC-QW20 ONLY)

(From Deck B to Deck A)

Operate in the order shown.



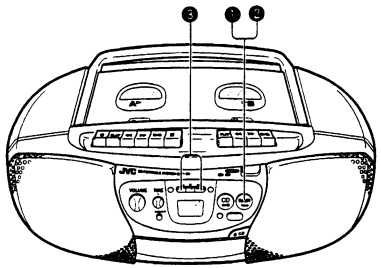
(RC-QW20)

❶ Set the POWER button to ON.
❷ Load a cassette.
❸ Load a cassette.
❹ Press the PLAY/TAPE button on Deck B.
❺ Press the ❚❚PAUSE button.
❻ Press the PLAY/TAPE button on Deck A.

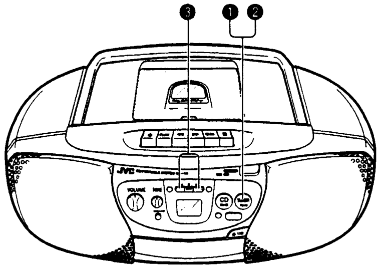
* When Deck B stops, Deck A's pause mode will be released and it will start playback. When Deck A stops automatically, relay playback will be released.

RADIO RECEPTION

Operate in the order shown.



(RC-QW20)



(RC-QS10)

❶ Press the TUNER (FM/AM) button.
  - The power is switched on and a band and radio frequency will be shown in the display.
  - When battery power is used, switch on the POWER button first, then perform operations.

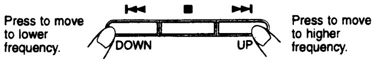
❷ Select the band (FM or AM).
❸ Tune to the required station.

STEREO AUTO/MONO button

Auto mode:
Set to this position when listening to or recording an FM stereo broadcast. The STEREO indicator lights when the FM stereo broadcast is received.

MONO:
Set to this position when FM stereo reception is noisy. When another station is tuned to in mono mode, the unit automatically enters Auto mode.

- **Seek tuning**
  Press the UP or DOWN button for one second or more; the unit enters the seek tuning mode and tunes to higher or lower frequencies, and when the broadcast is received, it stops tuning automatically and the broadcast can be heard.
- **Manual tuning**
  Each time the UP or DOWN button is pressed, the unit steps through the current frequency band. Tuning is in steps of 50 kHz for FM and 9 kHz for AM.


Press to move to lower frequency.
⏮
■
⏭
DOWN
UP
Press to move to higher frequency.

Notes:
- When seek tuning to the required station is not possible because it is broadcasting too weak a signal, press the UP or DOWN button momentarily to perform manual tuning.
- When the power is set to STANDBY, or another mode (TAPE or CD) is selected, the last tuned frequency is stored in memory. When the power is switched on again and TUNER (FM/AM) button is pressed, the same station will be heard.

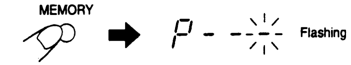
Auto preset tuning

This function scans the current band (FM or AM), detecting frequencies used to broadcast signals, and stores the first 15 frequencies in memory automatically.
- Press the AUTO PRESET (—) button for more than 2 seconds. The frequencies of stations broadcasting signals can be preset automatically in the order of increasing frequency (15 stations in each band (FM and AM).

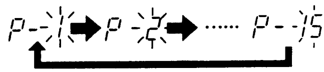
Adding memory presets (or changing presets)

- This function allows you to add memory presets for stations unable to be set using the auto-memory function.

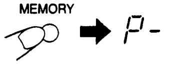
❶ Select the band you wish to add as a memory preset.
❷ Use the UP (or DOWN) tuning button to select the desired station.
❸ Press the MEMORY button.



❹ Use the UP (or DOWN) tuning button to select the desired memory preset number.
Example: Using the UP button.



❺ Press the MEMORY button a second time.
Example: Storing the station as P-5



Stays lit continuously to indicate that station is stored as memory preset.

Notes:
- The previous preset station is erased when a new station is set as the new station's frequency replaces the previous frequency in memory.

- **All preset stations will be erased when a power failure occurs for more than 48 hours or the power cord is unplugged for more than 48 hours. In such cases, preset the stations again.**

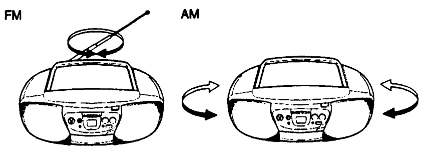
Preset tuning

- The stations must be preset before this operation can be performed.

① Press the TUNER (FM/AM) button
② Select the band (FM or AM) using the TUNER (FM/AM) button.
③ Press the PRESET TUNING (●) button to select the required preset station.

- The preset station number and frequency corresponding to the button pressed are shown.

Using the antennas



Note:
The built-in ferrite core antenna can pick up interference from television receivers in the neighborhood and thereby disturb AM reception.

RECORDING

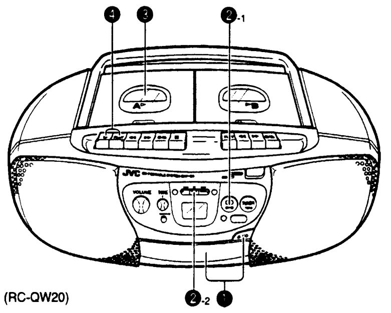
- In recording, the ALC circuit automatically optimizes the recording level; adjustment of the recording level is unnecessary.
- Check that the safety tab on the cassette tape is not broken off.
- To avoid malfunction, do not perform operations on deck B when recording. (RC-QW20)

Note:
This unit has recording/playback characteristics suitable for normal tapes. Normal tapes have different characteristics from CrO2 and metal tapes.

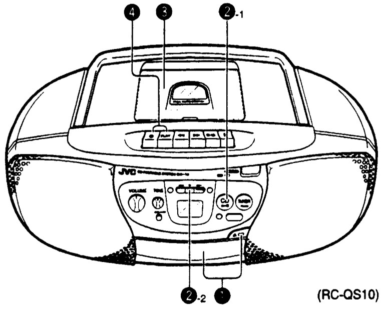
Synchronized recording with the CD player

- In this system, the CD player starts playback when the cassette deck enters the recording mode.

Operate in the order shown.



(RC-QW20)



(RC-QS10)

❶ Load a disc and close the CD tray.
❷ Set CD mode.
❸ Load a cassette in the deck with side A facing up.
(Wind past the leader tape before starting recording.)
❹ Press the ● REC button with the PLAY/TAPE button; synchronized recording will start.

- Non-recorded sections of approx. 4 seconds are automatically left between tunes.
- When the tape reaches the end first, the CD player stops automatically; when the CD player stops first, the tape continues running. In this case, press the ■/⏏STOP/EJECT button to stop the tape.

- **When automatic spacing between tunes is not required ...**

Perform the following after finishing the previous operation (❶ to ❸).

① Press the ⊳❚❚ button of the CD player twice.
The CD player enters the pause mode.
② Press the ●REC and PLAY/TAPE buttons simultaneously.
Now, the CD player starts playback simultaneously.

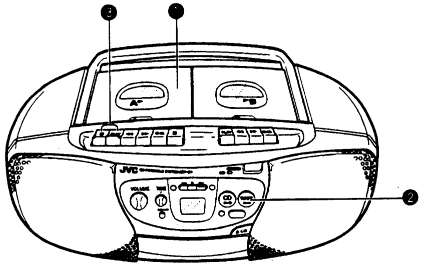
Notes:

- During CD synchro recording, the ⊳❚❚ and SEARCH (⏮ / ⏭) buttons do not function.
- During CD synchro recording, do not perform operations on Deck B, because if the tape in Deck B is played back, that sound would also be recorded. (RC-QW20 only)

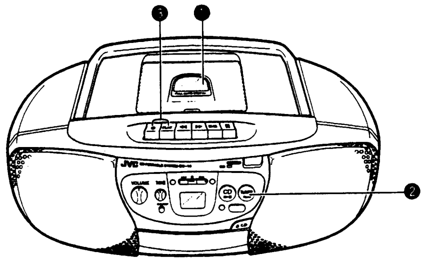
It should be noted that it may be unlawful to re-record pre-recorded tapes, records, or discs without the consent of the owner of copyright in the sound or video recording, broadcast or cable programme and in any literary, dramatic, musical, or artistic work embodied therein.

Recording from the radio

Operate in the order shown.



(RC-QW20)



(RC-QS10)

❶ Load a cassette with side A facing up.
(Wind past the leader tape before starting recording.)
❷ Press the TUNER (FM/AM) button. Tune to the required station.
❸ Press the ●REC button with the PLAY/TAPE button.

- To stop recording temporarily, press the ❚❚PAUSE button. To resume recording press the ❚❚PAUSE button again.

Note:
When recording from the radio, do not perform operations on Deck B, because if the tape in Deck B is played back, that sound would also be recorded. (RC-QW20 only)

BEAT CUT switch

When recording an AM broadcast, beats may be produced which are not heard when listening to the broadcast. In such a case, set this button after setting the deck to record mode so that the beats are eliminatd. Normally set this switch to "NORM-1".

Erasing

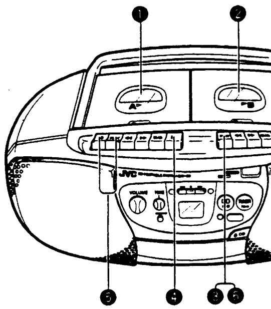
When recording on a pre-recorded tape, the previous recording is automatically erased and only the new material can be heard when the tape is played.

To erase a tape without making a new recording ...
Press the PLAY/TAPE button of the deck to set to the TAPE mode and press the ●REC and PLAY/TAPE buttons together after pressing the STOP button.

DUBBING (SYNCHRO START DUBBING) (RC-QW20 ONLY)

Normal speed dubbing can be done from Deck B to Deck A.

Operate in the order shown.



(RC-QW20)

❶ Load a cassette. (Refer to the note on page 13.)
❷ Load a pre-recorded cassette.
❸ Lightly press the PLAY/TAPE button to set to the TAPE mode. (The button should not be locked.)
❹ Press the ❚❚PAUSE button.
❺ Press the ●REC button with the PLAY/TAPE button. (Record-pause mode.)
❻ Press the PLAY/TAPE button. (Synchronized dubbing will start.)

MAINTENANCE

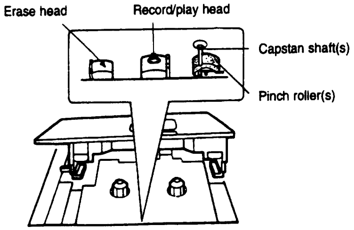
Cleaning is important!
When the tape is running, magnetic powder and dust naturally accumulate on the heads, capstan and pinch roller. When they become too dirty ...

- sound quality deteriorates.
- the output sound level drops.
- the previous sound is not completely erased.
- recording is not performed satisfactorily.

Because of this, you should clean the heads, etc. every 10 hours of use, so that perfect recording is possible.

Cleaning the heads, capstan and pinch roller

Open the cassette holder.
Clean the heads, pinch roller and capstan.
For effective cleaning, use a cleaning kit available from an audio store.
After cleaning, be sure that the cleaning fluid has dried completely before loading a cassette.



Cautions:

1. Keep magnets and metallic objects away from the head. If the head becomes magnetized, noise will increase and the tone will deteriorate. Demagnetize the head every 20–30 hours of use with a head eraser (available from an audio store). (When demagnetizing the head, the POWER button should be set to STANDBY).
   - As the erase head of this unit is of magnetic type, do not demagnetize it.
2. Do not use anything other than alcohol for cleaning. Thinner and benzine will damage the rubber pinch roller.

1 Location of Main Parts

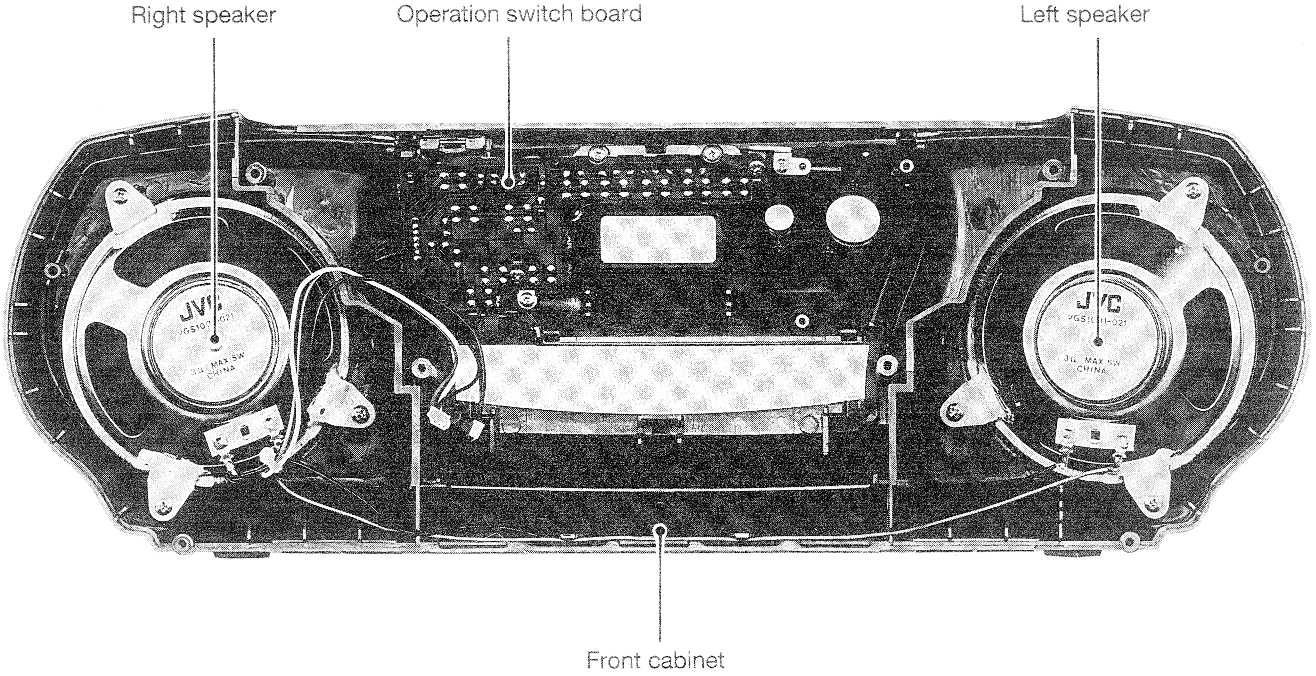

Right speaker
Operation switch board
Left speaker
Front cabinet

Fig. 1 – 1

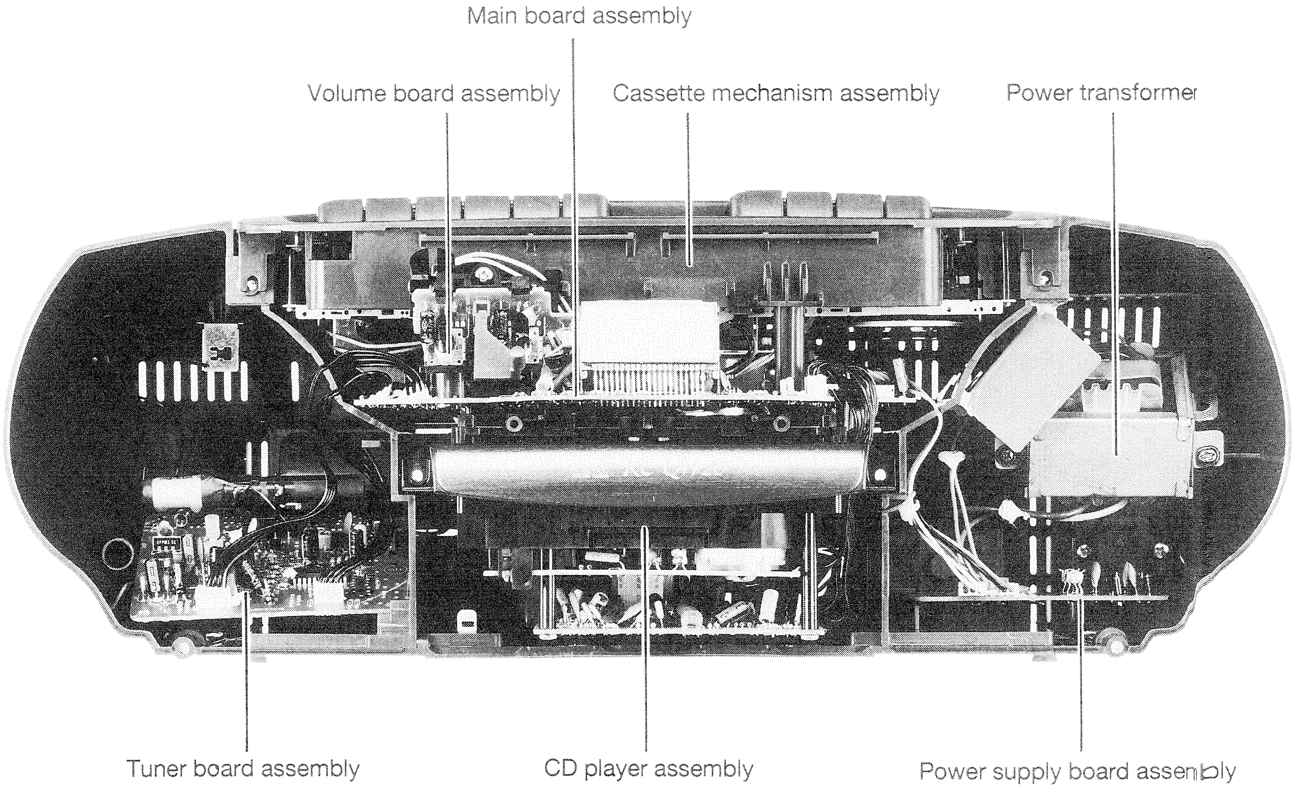

Main board assembly
Volume board assembly
Cassette mechanism assembly
Power transformer
Tuner board assembly
CD player assembly
Power supply board assembly

Fig. 1 – 2

2 Removal of Main Parts

◆ Removing the front and rear cabinet assemblies

(Figs. 2-1 to 2-4)

1. At the rear of the main unit, press the two claws ⓐ of the battery compartment cover downward to remove the battery cover (Fig. 2-1).
2. Pull out the volume and tone control knobs. Insert a dial rope, etc. in the clearance space to hook the knobs and pull them out (Fig. 2-2).
3. Remove the two handle mounting screws ① and the four rear cabinet mounting screws ②. Then remove the front and rear cabinet assemblies (Fig. 2-1).
4. Remove the speaker harness coming from the front cabinet assembly and the operation switch board harness connected to the CN704 and CN309 connectors on the main PCB (Fig. 2-3).
5. For removing the handle and top cover, extend the rear cabinet outwards (as indicated by the lateral arrows) and it is disengaged from the right and left fittings ⓑ. Then, the handle can be removed in the direction of the arrow (rearwards).

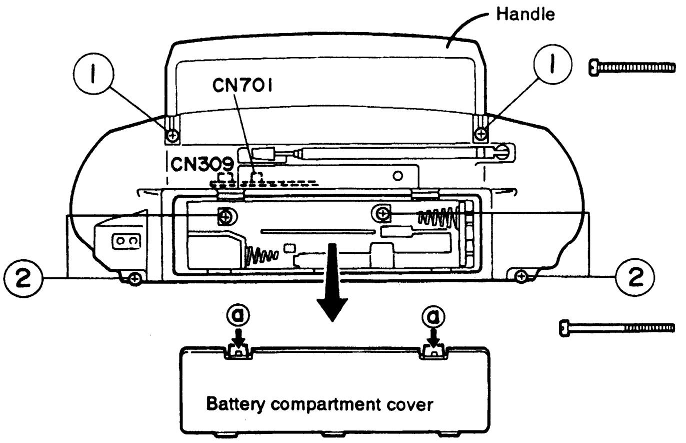

Handle
①
①
CN701
CN309
②
②
ⓐ
ⓐ
Battery compartment cover

Fig. 2 – 1

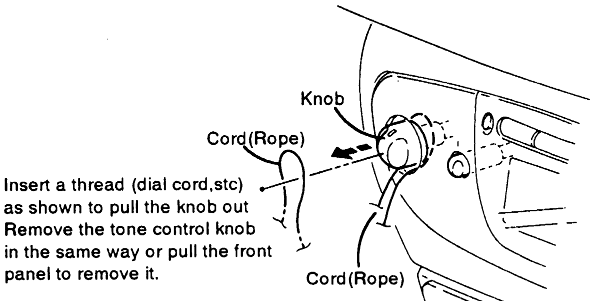

Knob
Cord(Rope)
Insert a thread (dial cord,stc) as shown to pull the knob out Remove the tone control knob in the same way or pull the front panel to remove it.
Cord(Rope)

Fig. 2 – 2

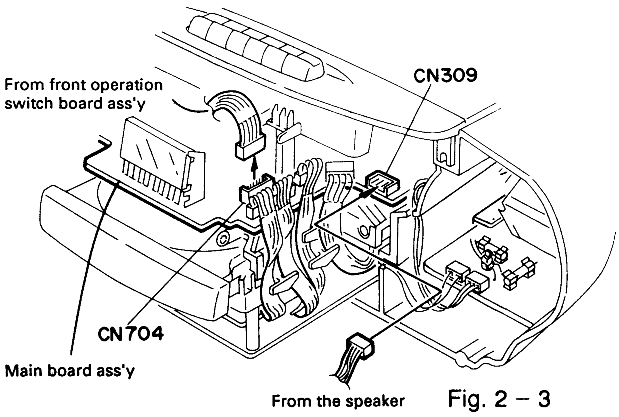

From front operation switch board ass'y
CN309
CN704
Main board ass'y
From the speaker

Fig. 2 – 3

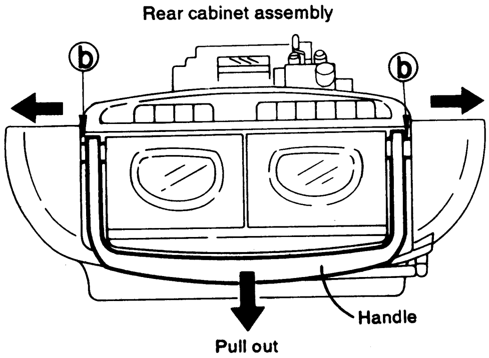

Rear cabinet assembly
ⓑ
ⓑ
Handle
Pull out

Fig. 2 – 4

◆ Removing the speakers and the operation switch PCB (Fig. 2-5)

1. Remove the three right speaker mounting screws ③ and the speaker brackets. (Remove screws for the left speaker as well.)
2. Remove the two screws ④ retaining the switch board mounting screws.

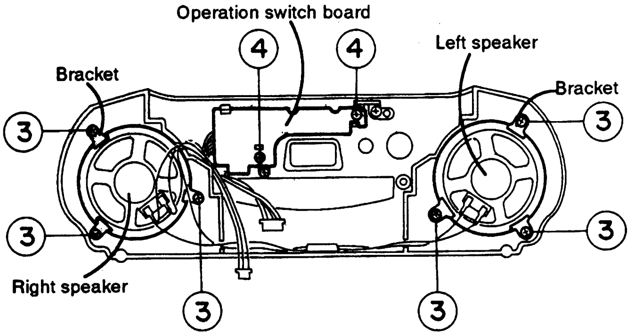

Operation switch board
④
④
Left speaker
Bracket
Bracket
③
③
③
③
③
③
Right speaker

Fig. 2 – 5

◆ Removing the tuner PCB (Fig. 2-6)

1. Remove connectors CN2 and CN3 on the tuner board.
2. Remove the antenna wire from TP1.
3. Disengage the board from the fitting of part © on the rear cabinet (in the direction shown with the arrow) and pull it out.

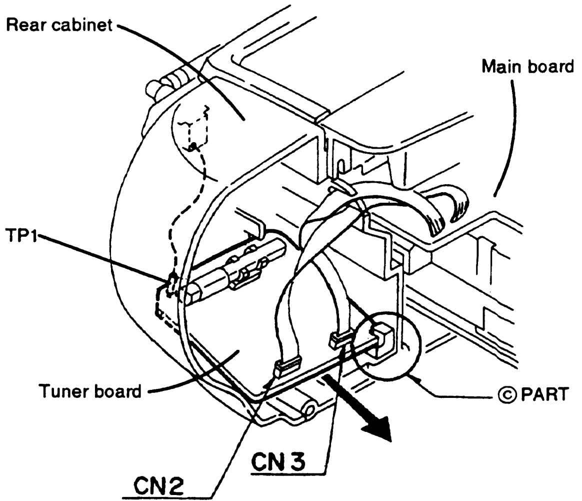

Rear cabinet
Main board
TP1
Tuner board
© PART
CN 3
CN2

Fig. 2 − 6

◆ Removing the power transformer and the power supply board (Fig. 2-7)

1. Remove the two screws ⑤ securing the AC terminal.
2. Disconnect the two connectors (CN306 and CN307) on the power supply board.
3. Remove the two screws ⑥ securing the power transformer.
4. Pull the power supply board toward you and remove it together with the power transformer.

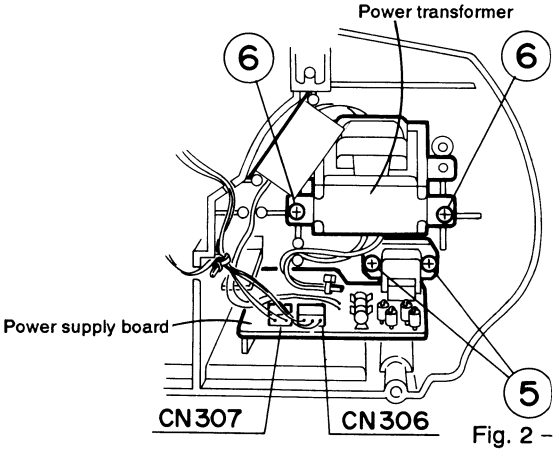

Power transformer
⑥
⑥
Power supply board
⑤
CN307
CN306

Fig. 2 - 7

◆ Removing the volume PCB (Figs. 2-8 and 2-9)

1. Remove the screw ⑦ securing the volume board (Fig. 2-8).
2. Disengage the two claws ⓓ on the volume holder to take out the board.

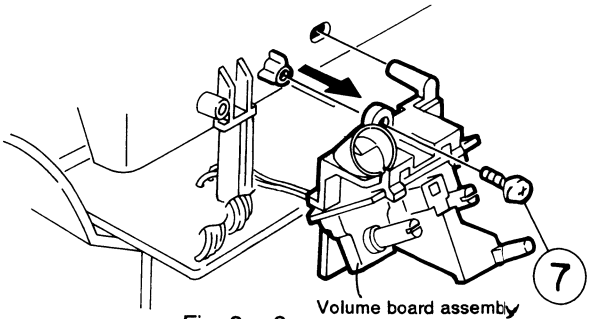

⑦
Volume board assembly

Fig. 2 − 8

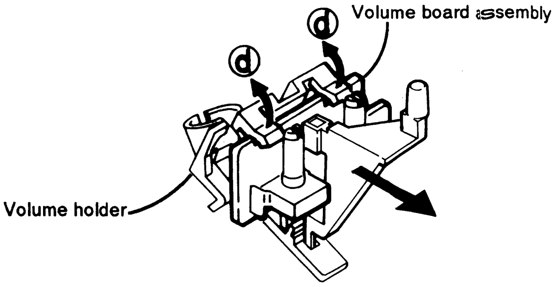

ⓓ
Volume board assembly
ⓓ
Volume holder

Fig. 2 − 9

◆ Removing the CD player assembly (Fig. 2-10)

1. Remove the harnesses CN701, CN702, CN703 and CN303 from the main board (connectors onmain board CN701, CN702, CN703 and CN303).

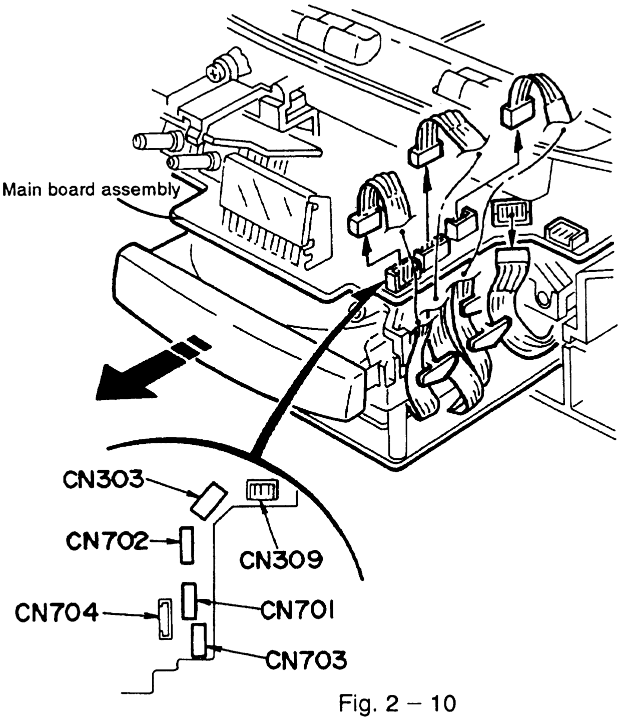

Main board assembly
CN303
CN702
CN309
CN704
CN701
CN703

Fig. 2 – 10

◆ Removing the CD amp PCB (Fig. 2-11)

1. Remove the two screws ⑧ securing the CD amp PCB.
2. Remove the harness of connector CN502 from P011 on the pickup PCB.
3. Remove the card wire coming from P001 from CN501.

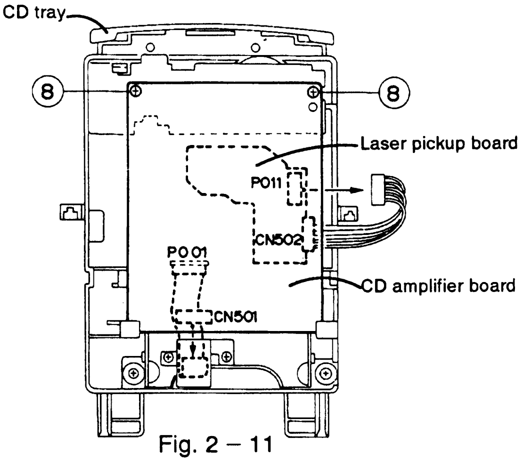

CD tray
⑧
⑧
Laser pickup board
P011
CN502
P001
CD amplifier board
CN501

Fig. 2 – 11

◆ Removing the CD tray (Figs. 2-12 and 2-13)

1. Remove the two screws ⑨ for the CD tray stopper.
2. Turn over the loading base assembly. Insert a Phillips driver in hole A of the CD tray motor assembly and turn the driver counterclockwise. The tray will be released.
3. When the tray is released, pull it out by hand.

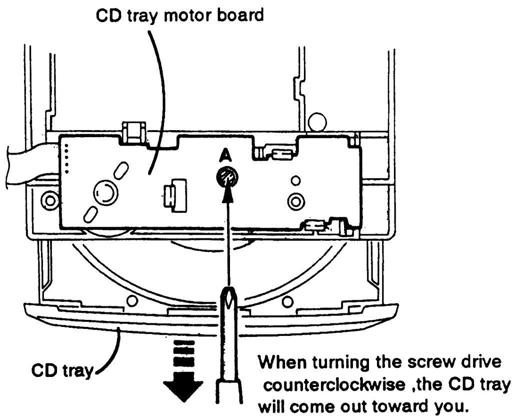

CD tray motor board
A
CD tray
When turning the screw drive counterclockwise ,the CD tray will come out toward you.

Fig. 2 – 13

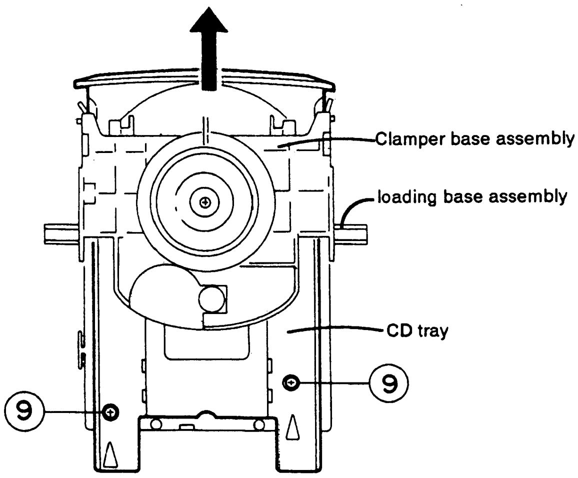

Clamper base assembly
loading base assembly
CD tray
⑨
⑨

Fig. 2 – 12

◆ Removing the clamper base assembly (Fig. 2-14)

Remove the two screws ⑩ securing the clamper base assembly.

◆ Removing the CD tray motor (Figs. 2-15 and 2-16)

1. Remove the two screws ⑪ securing the CD tray motor.
2. Disengage the belt from the CD tray motor base.
3. Turn over the CD tray motor base assembly.

☆ Desolder soldered section ⓕ on the CD tray motor PCB.

☆ Remove the PCB by opening the three claws ⓖ on the CD tray motor PCB in the direction shown by the arrow.

◆ Removing the CD mechanism assembly (Fig. 2-17)

1. Turn over the CD player assembly and remove the two screws ⑫ securing the CD mechanism assembly.
2. To remove shaft in the upper part of the CD mechanism assembly from the fitting of section ⓗ (slot of the slide) of the loading base assembly, pull the CD mechanism assembly diagonally upward toward you.

★ To reassemble, move the slide of the loading base assembly in the direction shown with the arrow and insert the shaft in the upper section of the CD mechanism assembly into section ⓗ (slot of the slide).

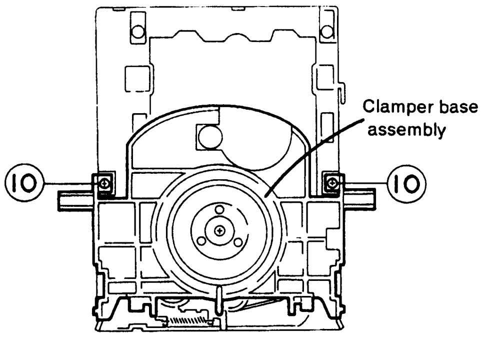

Clamper base assembly
⑩
⑩

Fig. 2 - 14

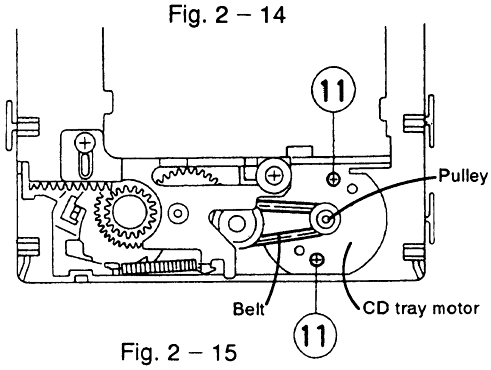
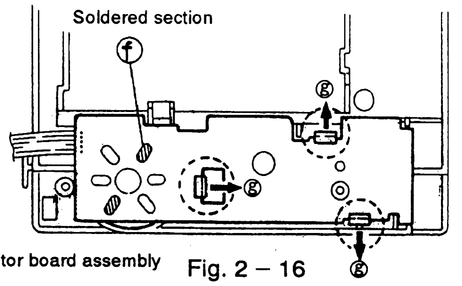
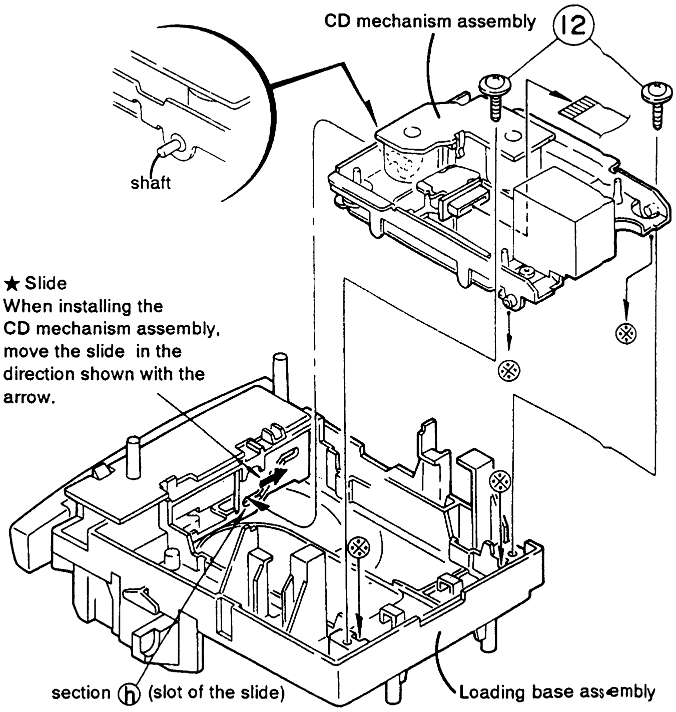

⑪
Pulley
Belt
CD tray motor
⑪

Fig. 2 - 15


Soldered section
ⓕ
ⓖ
ⓖ
ⓖ

CD tray motor board assembly Fig. 2 - 16


CD mechanism assembly
⑫
shaft
section ⓗ (slot of the slide)
Loading base assembly

★ Slide
When installing the CD mechanism assembly, move the slide in the direction shown with the arrow.

Fig. 2 - 17

◆ Removing the cassette mechanism assembly

(Fig. 2-18)

1. Remove the handle (Fig. 2-3).
2. Remove the CD player assembly (Fig. 2-9).
3. Remove the harness coming from connectors CN702 and FW302 on the main board from connectors CN3 and CN2 on the tuner board.
4. Remove the 3-pin connector coming from the main board from connector CN306 on the power supply board.
5. Remove the cassette mechanism assembly by pulling it out in the direction shown with the arrow.

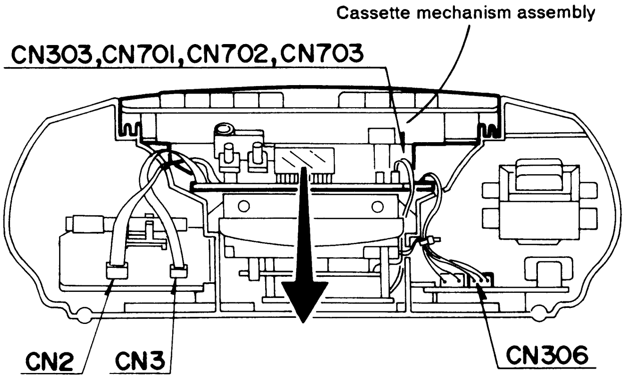

Cassette mechanism assembly
CN303,CN701,CN702,CN703
CN2
CN3
CN306

Fig. 2 – 18

◆ Removing the main PCB (Figs. 2-19 and 2-20)

1. Remove the four screws ⑬ securing the main board from the rear of the cassette mechanism assembly.
2. Remove the harness coming from the cassette mechanism from connectors CN301, CN302 and CN305 on the main PCB. When connecting connector CN305, trim the harness by referring to Fig. 2-20.

☆The volume board and main board are connected by a harness. To separate the main board completely from the rear cabinet, first remove the volume board. Refer to "Removing the microphone unit and the volume PCB".

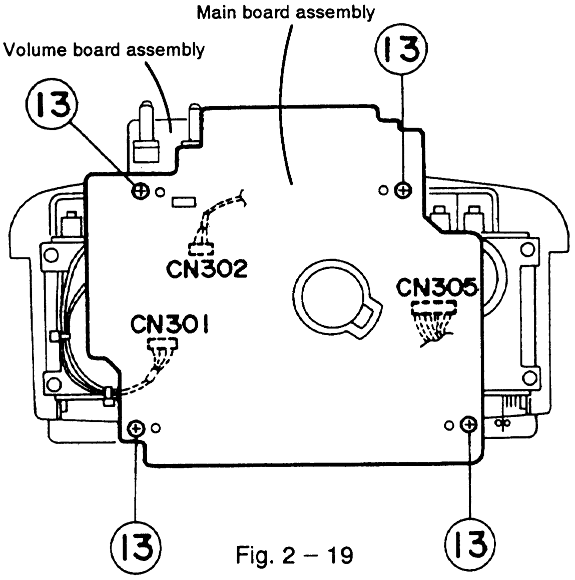

Main board assembly
Volume board assembly
13
13
CN302
CN305
CN301
13
13

Fig. 2 – 19

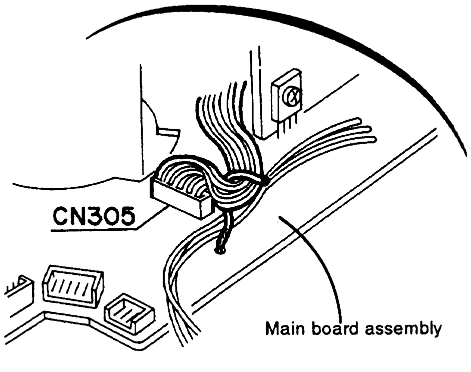

CN305
Main board assembly

Fig. 2 – 20

◆ Removing the cassette mechanism

(Figs. 2-21 and 2-22)

1. Press the stop/eject buttons for mechanisms A and B to open the cassette doors (Fig. 2-21).
2. Remove the six screws ⑭ securing the cassette mechanism (Fig. 2-22).

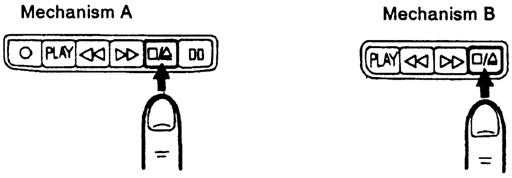

Mechanism A
PLAY
Mechanism B
PLAY

Fig. 2 – 21

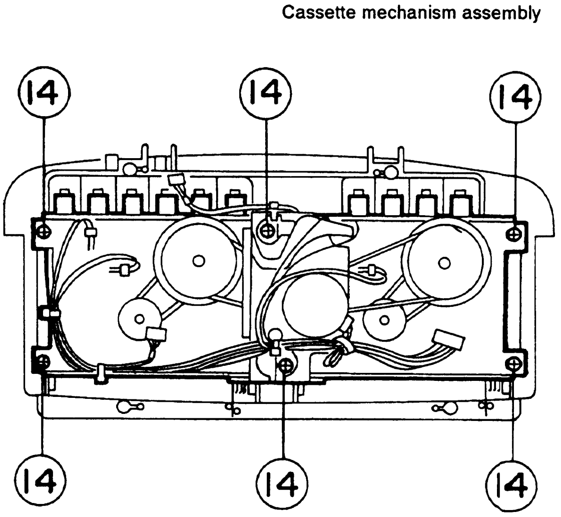

Cassette mechanism assembly
14
14
14
14
14
14

Fig. 2 – 22

◆ Removing the battery contact PCB

(Fig. 2-23)

1. Open the claw ⓘ securing the battery contact board from the rear of the rear cabinet and pull out the battery contact board toward the rear panel.
2. Remove the 2-pin connector coming from the battery contact board from connector CN703 on the power supply board.

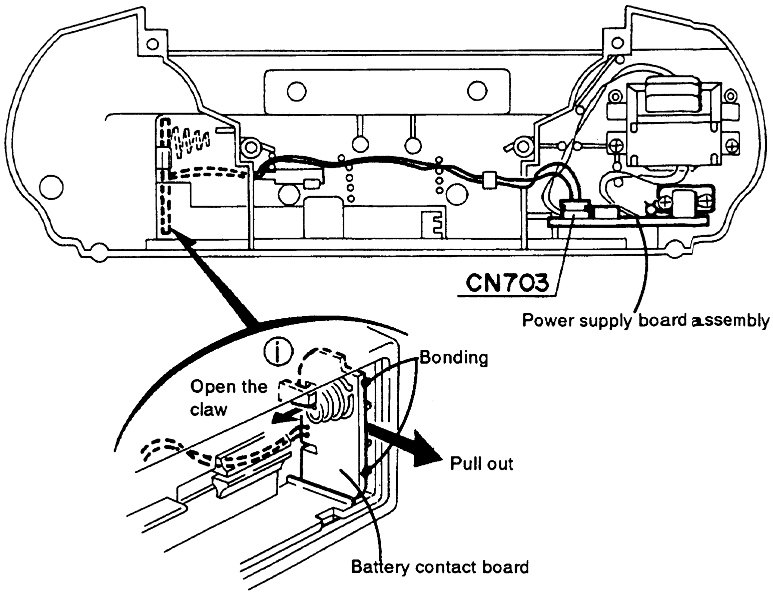

CN703
Power supply board assembly
ⓘ
Open the claw
Bonding
Pull out
Battery contact board

Fig. 2 – 23

Cassette mechanism bottom view

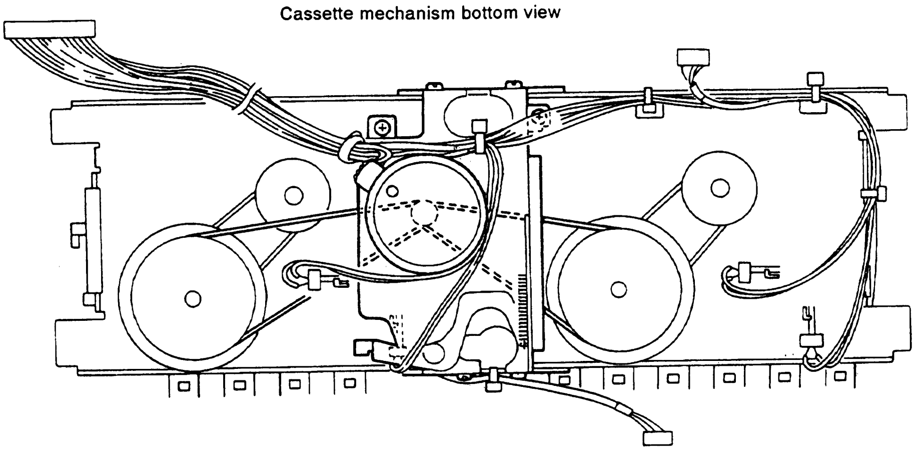


Fig. 2 – 24

◆ Removing the capstan motor (Figs. 2-24 and 2-25)

1. Separate the front and rear cabinet assemblies.
2. Remove the cassette mechanism assembly.
3. Remove the main board.
4. Remove the main belt from the flywheel assembly of mechanisms A and B.
5. Remove the three screws ② securing the capstan motor.

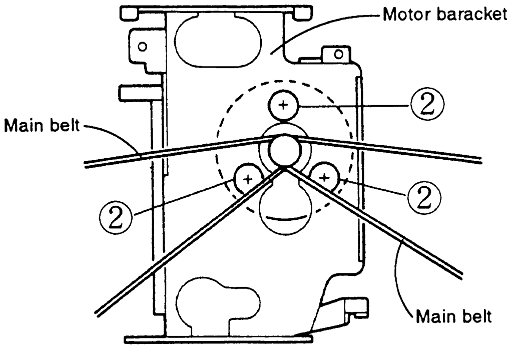


Fig. 2 – 25

◆ Removing the eject slide lever (Fig. 2-26)

1. Press the stopper arm with a small minus driver as shown in the figure to release the stopper arm.
2. Remove the eject slide lever in the direction shown with the arrow ⓒ.

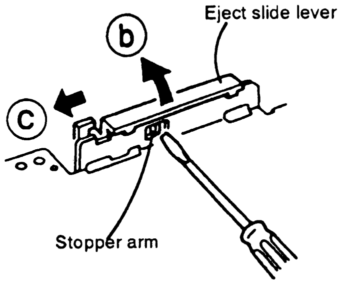


Fig. 2 – 26

◆ Removing the leaf switch (Fig. 2-27)

1. Press the leaf switch in the direction shown with arrow ⓓ.
2. Remove the leaf switch by pressing it in the direction shown with arrow ⓔ.

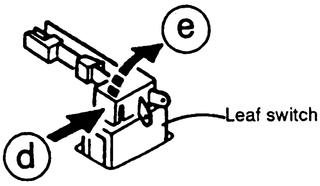


Fig. 2 – 27

◆ Removing the pinch roller (Fig. 2-28)

1. Detach the stopper from the pinch roller assembly by pulling it in the direction shown with arrow ⓕ.
2. Pull out the pinch roller assembly in the direction shown with arrow ⓖ.

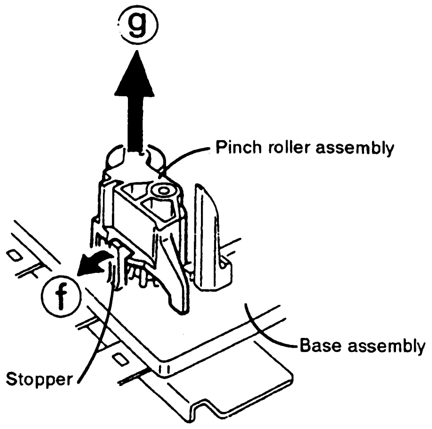

ⓖ
Pinch roller assembly
ⓕ
Base assembly
Stopper

Fig. 2 – 28

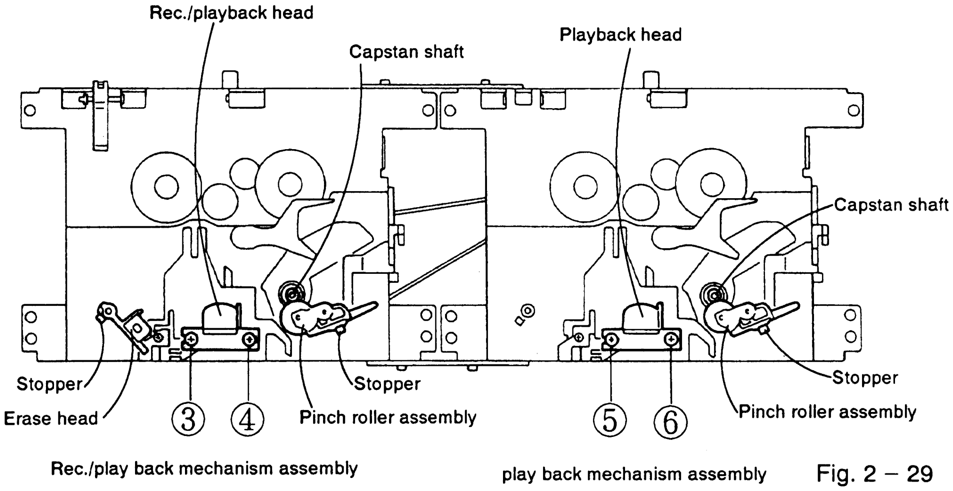

Rec./playback head
Capstan shaft
Playback head
Capstan shaft
Stopper
Erase head
③ ④
Stopper
Pinch roller assembly
⑤ ⑥
Stopper
Pinch roller assembly
Rec./play back mechanism assembly
play back mechanism assembly

Fig. 2 – 29

◆ Removing the rec/play head and erase head

(Figs. 2-29 and 2-30)

1. Remove the two screws ③ and ④ securing the rec/play head of mechanism A.
2. Remove the two screws ⑤ and ⑥ securing the play head of mechanism B.
3. Detach the stopper securing the erase head in the direction shown with arrow ⓗ.
4. Pull out the erase head in the direction shown with arrow ⓘ

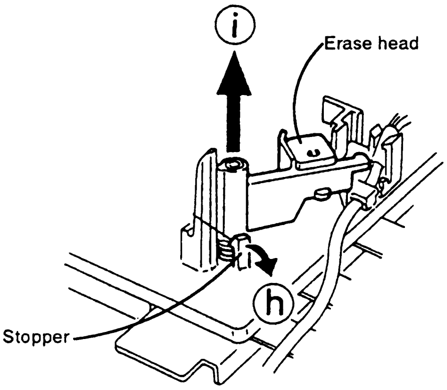

ⓘ
Erase head
ⓗ
Stopper

Fig. 2 – 30

◆ Removing the flywheel assembly (Fig. 2-31)

1. Remove the E washer securing the flywheel assembly and pull the washer out in the direction shown with arrow ⓙ.
2. Pull the flywheel assembly from the cassette mechanism in the direction shown with arrow ⓚ.

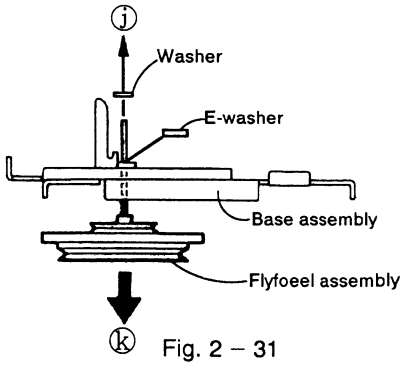

ⓙ
Washer
E-washer
Base assembly
Flyfoeel assembly
ⓚ

Fig. 2 – 31

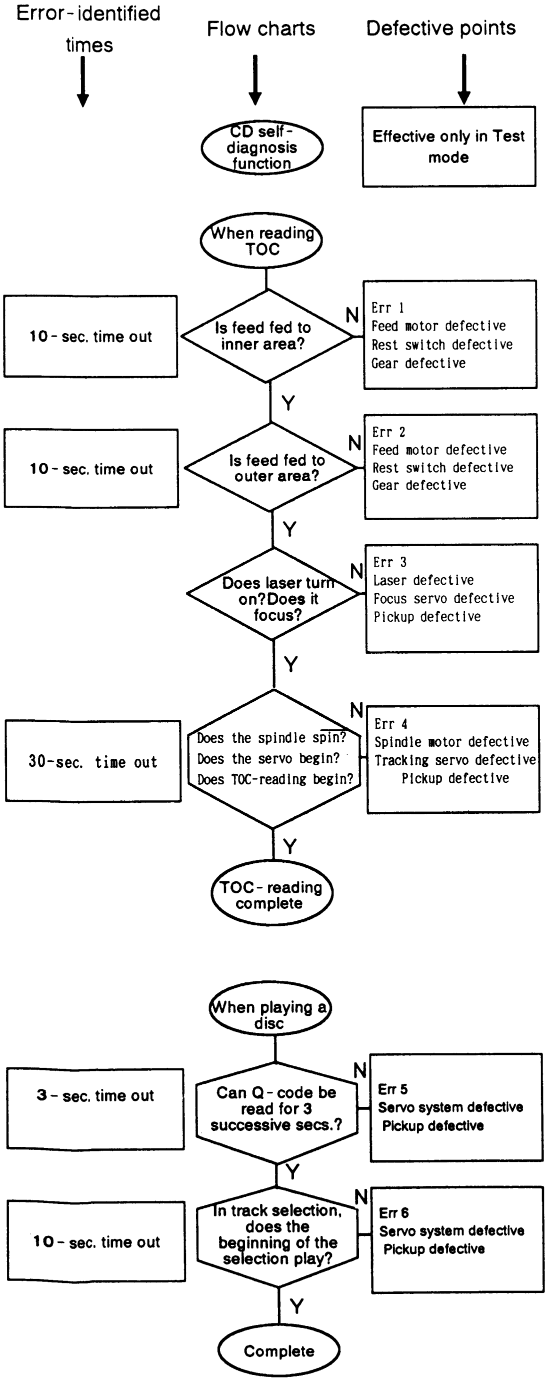
3 Troubleshooting

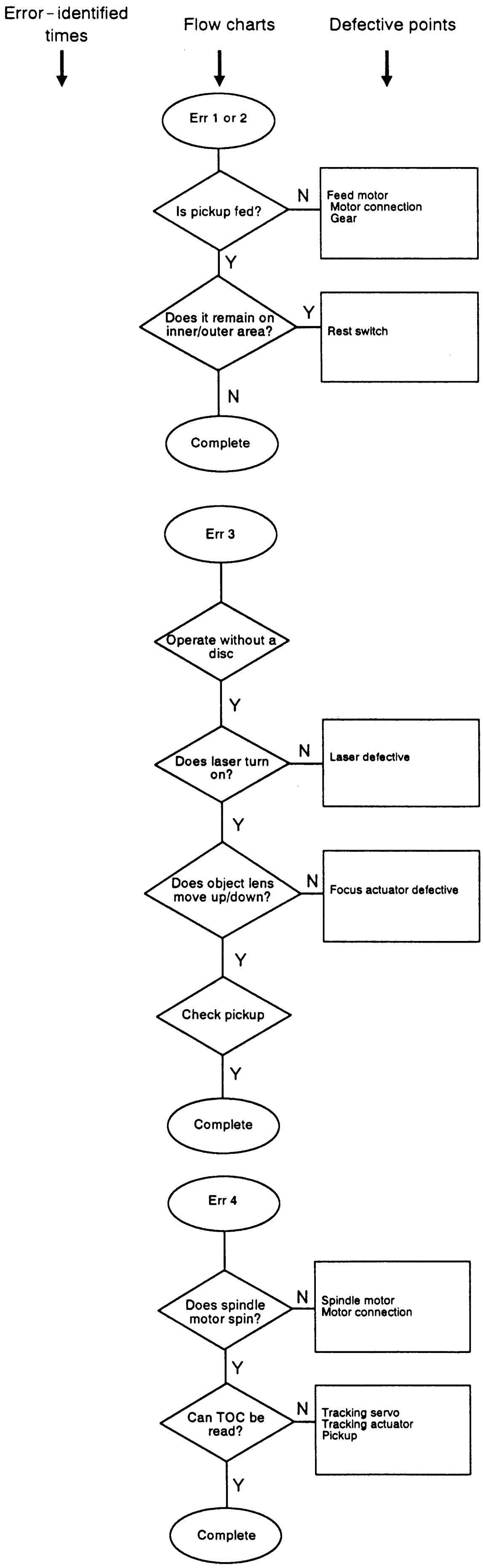
◆HOW TO OPERATE THE CD SELF-DIAGNOSIS FUNCTION

◆The CD Self-diagnosis Function

If any malfunction occurs in the CD player, this system can be set to make an error code indication appear on the LCD to point out the defective parts. This efficiently helps service personnel find the causes of the malfunction.

Test mode: CD STOP (■) + POWER ON


Error-identified times
Flow charts
Defective points
CD self-diagnosis function
Effective only in Test mode
When reading TOC
10-sec. time out
Is feed fed to inner area?
N
Err 1
Feed motor defective
Rest switch defective
Gear defective
Y
10-sec. time out
Is feed fed to outer area?
N
Err 2
Feed motor defective
Rest switch defective
Gear defective
Y
Does laser turn on? Does it focus?
N
Err 3
Laser defective
Focus servo defective
Pickup defective
Y
30-sec. time out
Does the spindle spin?
Does the servo begin?
Does TOC-reading begin?
N
Err 4
Spindle motor defective
Tracking servo defective
Pickup defective
Y
TOC-reading complete
When playing a disc
3-sec. time out
Can Q-code be read for 3 successive secs.?
N
Err 5
Servo system defective
Pickup defective
Y
10-sec. time out
In track selection, does the beginning of the selection play?
N
Err 6
Servo system defective
Pickup defective
Y
Complete


Error-identified times
Flow charts
Defective points
Err 1 or 2
Is pickup fed?
N
Feed motor
Motor connection
Gear
Y
Does it remain on inner/outer area?
Y
Rest switch
N
Complete
Err 3
Operate without a disc
Y
Does laser turn on?
N
Laser defective
Y
Does object lens move up/down?
N
Focus actuator defective
Y
Check pickup
Y
Complete
Err 4
Does spindle motor spin?
N
Spindle motor
Motor connection
Y
Can TOC be read?
N
Tracking servo
Tracking actuator
Pickup
Y
Complete

4. Main Adjustments

■ Measuring instructions required for adjustment

1. Low-frequency oscillator(oscillation frequency 50Hz~20kHz, 0dB output with 600 Ω impedance)
2. Attenuator(600 Ω impedance)
3. Electronic voltmeter
4. Distortion meter
5. Torque gauge(cassette for CTG-N,
6. Wow & flutter meter
7. Frequency counter meter

◇ Test tape

● Playback tape

VTT 712 or VT712 (tape speed ,wow flutter)
VTT 724 or VT724 (reference level)
VTT 739 or VT739 (playback frequency)
VTT 703 or VT703 (10kHz azimuth)

● Recording tape

AC 224

● Power supply voltage

Your local voltage
AC 230 V / 50 Hz

■ Measuring instruments

● Radio section

◇ FM :400Hz, 22.5kHz deviation
◇ FM STEREO : 1kHz,67.5kHz, deviation
pilot signal 7.5kHz
◇ AM : 400Hz, 30%, modulation
◇ Reference output :
speaker output : 0dBs(0.755V)/3 Ω
H.phone output : – 10dBs(0.245V)/32 Ω

◇ Standard position of function switch
Function switch : FM
Bass boost : OFF
Main volume : Reference output

● Amplifier section

◇ Reference output :
speaker output 0dBs(0.755V)/3 Ω
H.phone output – 10dBs(0.245V)/32 Ω
◇ Standard position of function switch and volume
Function switch : TAPE
Mode switch : STEREO
Beat cut switch : Normal (1 position)
Tone : Maximum
◇ Reference input
Recording input level : –30 dBs
Input point : FW302
◇ Other item

- Standard recordingt current for recording :
  Normal mode 33 µA
- Bias oscillation frequency (Beat cut switch to normal) :
  75 kHz ± 3 kHz
- Standard bias current for recording :
  Normal mode 500 µA

● CD section

◇ Test disc (JVC CTS – 1000)
(CRG – 1242)

■ Cassette Amplifier Section

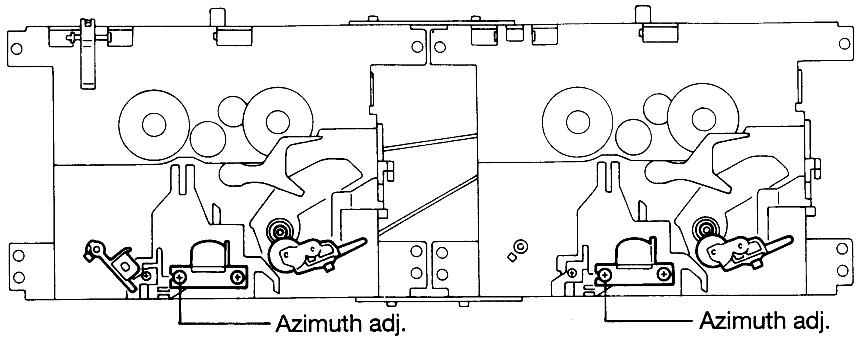
Item	Measuring condition	Check and adjustment procedure	Standard value	Adjusting part
Head azimuth adjustment	• Test tape: VTT703 (10 kHz) • Signal output terminal: PHONES (with 32 Ω load)	1. Play back the test tape VTT703 (10 kHz). 2. Adjust the head azimuth adjusting screw so that the phase difference between the R and L channels is minimized at an output level that is within ±2 dB of the maximum output level of the deck A in the FWD and REV operations. After this adjustment, lock the head azimuth adjusting screw with screw sealant to cover more than a half of the screw head. 3. When the head azimuth is maladjusted, correct it with the head azimuth adjusting screw in the FWD and REV operations alternately.	• Output level: Within ±2 dB of maximum output level • Phase difference R and L channels: Minimum	Head azimuth adjusting screw (To be used only after head replacement)
Tape speed and wow/ flutter check and adjustment	• Test tape: VTT712 (3 kHz) • Sigfnal output terminal: PHONES (with 32 Ω load)	1. Play back the test tape VTT712 (3 kHz) by the end portion. 2. Connect a frequency counter and check that it reads between 2940 and 3090 Hz. If not, adjust the frequency with the semifixed resistor VR303. 3. Check that the wow/flutter is within 0.38% (unweighted.)	• 2940 to 3090 Hz • Within 0.38% (unweighted)	• Tape speed: VR303 • Check only
PB frequency response check	• Test tape: VTT739 • Signal output terminal: PHONES (with 32 Ω load)	Play back the test tape VTT739 while confirming that deviation between the 1 kHz signal and 10 kHz signal should be 0 ± 4 dB.	Deviation between 1 kHz and 10 kHz: 0 ± 4 dB	
Bias frequency check	•Tape: Normal • Signal output terminal: Speaker	Set the BEAT CUT switch to the NORM-1, and check to see if the frequency at the measuring point is 75.5 ± 3 kHz. If not, adjust the frequency to be 75.5 ± 3 kHz. Then, change the setting of the BEAT CUT switch to the NORM-2 and NORM-3 positions to check to see if the measured frequency is equivalent to the standard value respectively.	Standard values • STD-1 position: 75.5 ± 3 kHz • STD-2 position: 72.5 ± 3 kHz • STD-3 position: 75.5 ± 3 kHz	
REC and PB frequency response adjustment	• Test tape: AC224 • Signal input/output terminal: FW302/ PHONES	Set the TAPE SELECT switch to the NORMAL position and BEAT CUT switch to the STANDARD-1, and record the reference 1 kHz (–30 dB) signal and 8 kHz signal alternately repeatedly. While playing back the recorded signals, check to see if the output level of the 8 kHz signal differs from that of the 1 kHz signal by within +1 ± 4 dB.	Level difference between REC and PB: Within +1 ± 4 dB	
REC and PB sensitivity check	• Test tape: VTT724 (1 kHz), AC224 • Signal input/output terminal: FW302/ PHONES	Input the 1 kHz, –30 dBs signal through the input terminal FW302 and record it. While playing back the recorded signal, check to see if the playback output level at the measuring point is within 0 dBs as compared with the playback level of the test tape VTT724.	Within 0 dBs ± 3 dB	

■ Tuner Section

Item	Measuring condition	Check and adjustment procedure	Standard value	Adjusting part
IF adjustment		• Free from adjustment because fixed IF element is employed		
FM tracking and MPX adjustment		• Free from adjustment because ceramic oscillator is employed • Free from adjustment because fixed coil is employed		
AM tracking adjustment	BAND selector switch: AM Standard mode setting: AUTO Measuring point: CN2 for AM output Signal input: Standard loop antenna	1. While receiving a 522 kHz signal from an AM signal generator to the tuner being set to the PRESET No. 1, check to see if the output of CN2 is maximum.		
		2. When voltage at TP9 is higher than 5.0 V, adjust it to be 5.0 ± 0.1 V with L4.	5.0 ± 0.1 V	L4
		3. While receiving a 603 kHz signal from an AM signal generator to the tuner being set to the PRESET No. 3, maximize the output of CN2 with L3.		L3
		4. While receiving a 1404 kHz signal from an AM signal generator to the tuner being set to the PRESET No. 4, maximize the output of CN2 with TC2.		TC2
		5. Repeat the above steps 3. and 4. to maximize the output of CN2.		L3, TC2

■ Location of adjusting position

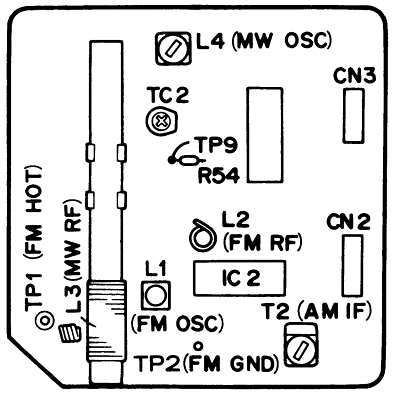
● Cassette mechanism section



Azimuth adj.
Azimuth adj.

Fig. 4 – 1

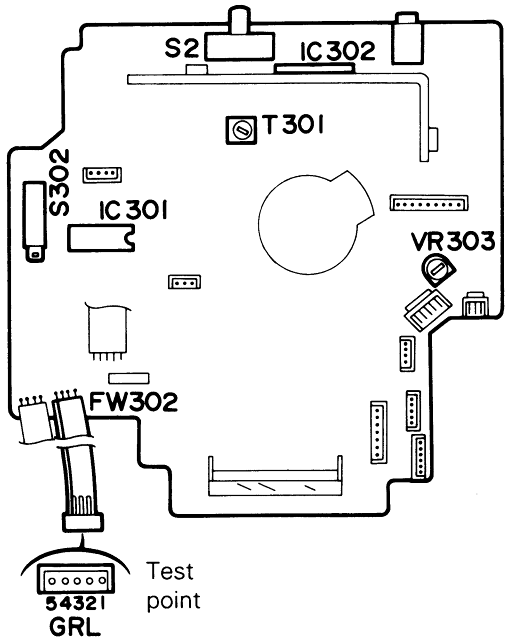
● TUNER board assembly



L4 (MW OSC)
CN3
TC2
TP9
R54
L2 (FM RF)
CN2
L1
IC 2
(FM OSC)
T2 (AM IF)
TP2 (FM GND)
TP1 (FM HOT)
L3 (MW RF)

Fig. 4 – 2

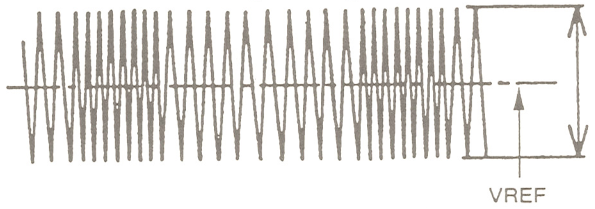
● Main amplifier board assembly



S2
IC302
T301
S302
IC301
VR303
FW302
54321
GRL
Test point

Fig. 4 – 3

CD player Section

Item	Conditions	Adjustment & Confirmation Methods	Stand. values	Adjust
Tracking offset adjustment	Test disc :CTS1000 Oscilloscope **Note 1** Adjust VR501 so that the waveform becomes vertically symmetrical to the reference voltage value of servo. **Note 2** The oscilloscope input should be DC – coupled. **Note 3** VREF: Groud level on the oscilloscope.	① Connect TP503 (TE) and TP501 (VREF) respectively to the hot and ground sides of the oscilloscope. ② Replay the test disc CTS1000. ③ When TP504 and TP501 have been connected (Shorted) during replay, a tracking error signal will be emitted for about 3 sec. (Since the tracking error signal will be emitted at all times when the model with a test mode function is shifted to TEST mode, the adjustment can be performed more easily). ④ Since the waveform of tracking error signal displayed by the oscilloscope goes up and down when VR501 has been adjusted, adjust VR501 so that the center of the waveform amplitude becomes a reference voltage value of servo(VREF). ⑤ Repeat the steps ②~④ until the center of the waveform amplitude of tracking error signal becomes the reference voltage value of servo (This step is not necessary in the case of the model with test mode function). Tracking error signal  Adjust the waveform becomes vertically systemmetrical to the reference voltage value of servo.	Adjust the center of waveform amplitude to the reference voltage value of servo (VREF).	VR501

Adjusting position (CD amplifier board)

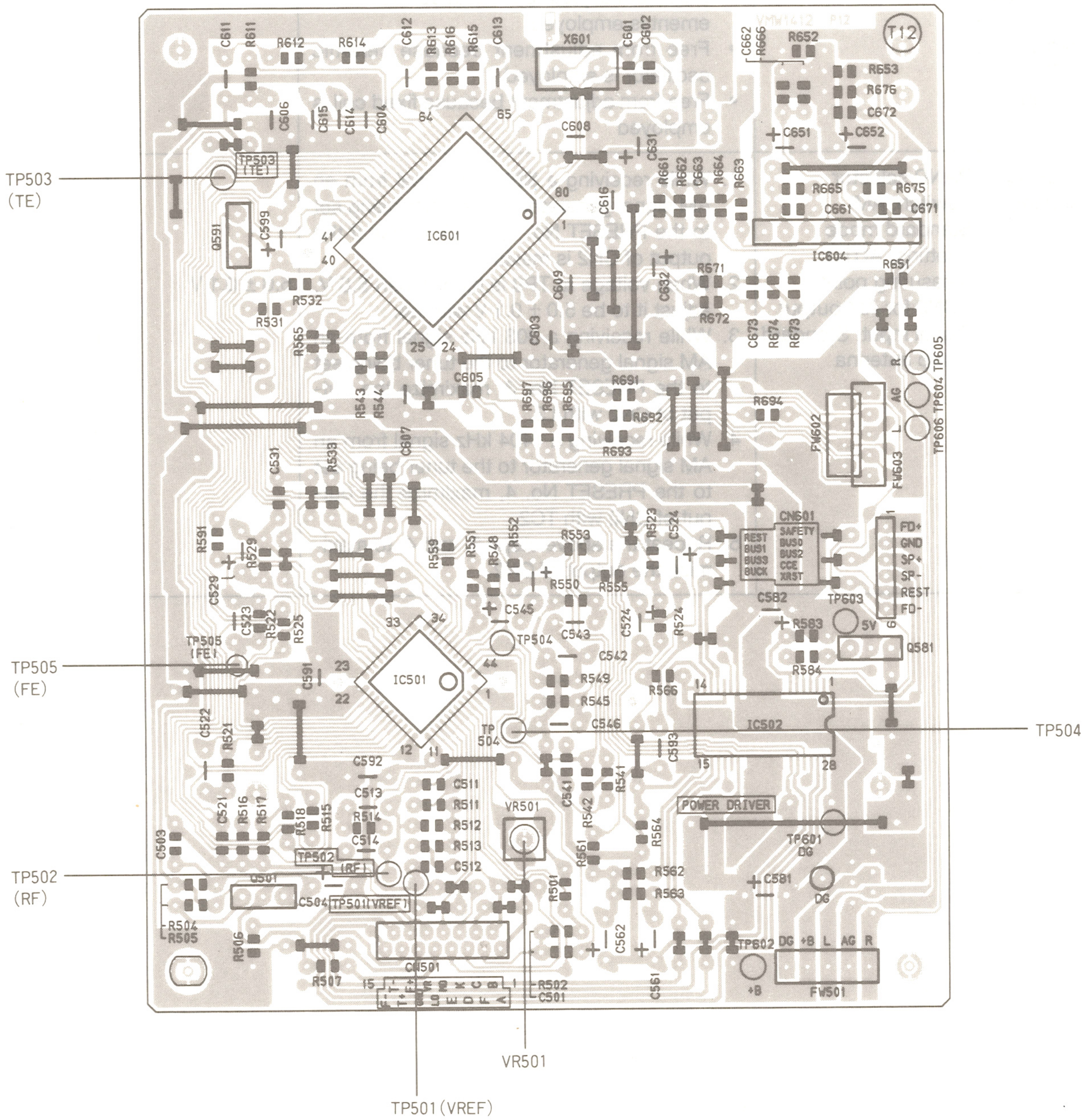
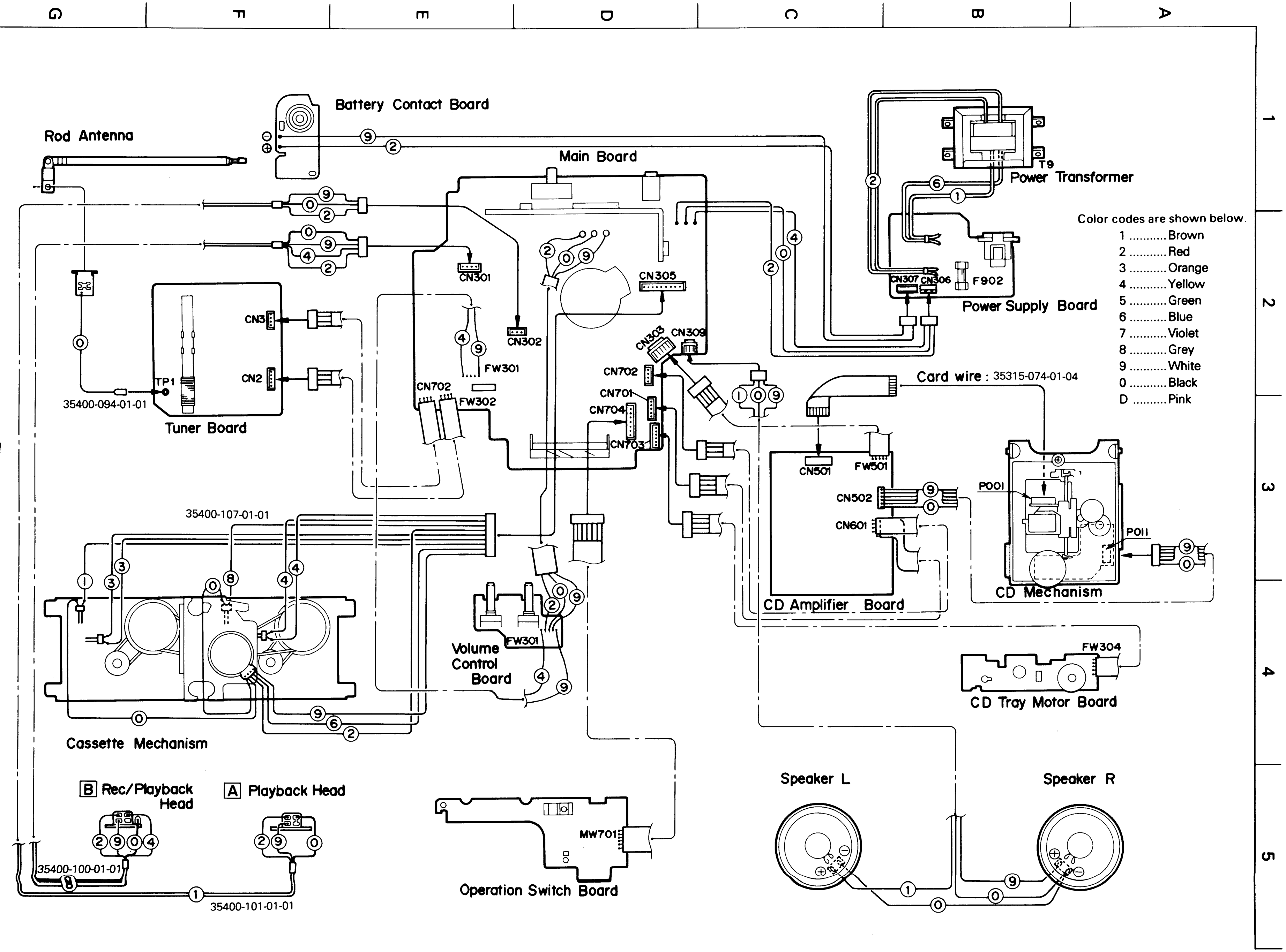


Fig. 4 – 4

5. Wiring Connections


G
F
E
D
C
B
A
1
2
3
4
5
Battery Contact Board
Rod Antenna
Main Board
T9
Power Transformer
CN301
CN302
CN305
CN303
CN309
CN3
CN2
TP1
35400-094-01-01
Tuner Board
FW301
CN702
FW302
CN701
CN704
CN703
CN307
CN306
F902
Power Supply Board
Card wire : 35315-074-01-04
CN501
FW501
CN502
CN601
CD Amplifier Board
P001
P011
CD Mechanism
35400-107-01-01
Volume Control Board
FW301
Cassette Mechanism
FW304
CD Tray Motor Board
B Rec/Playback Head
A Playback Head
35400-100-01-01
35400-101-01-01
MW701
Operation Switch Board
Speaker L
Speaker R
① ② ③ ④ ⑥ ⑧ ⑨ ⓪
⊖
⊕

Color codes are shown below.

1	Brown
2	Red
3	Orange
4	Yellow
5	Green
6	Blue
7	Violet
8	Grey
9	White
0	Black
D	Pink

Fig. 5-1

6. Block Diagram (Signal diagram)

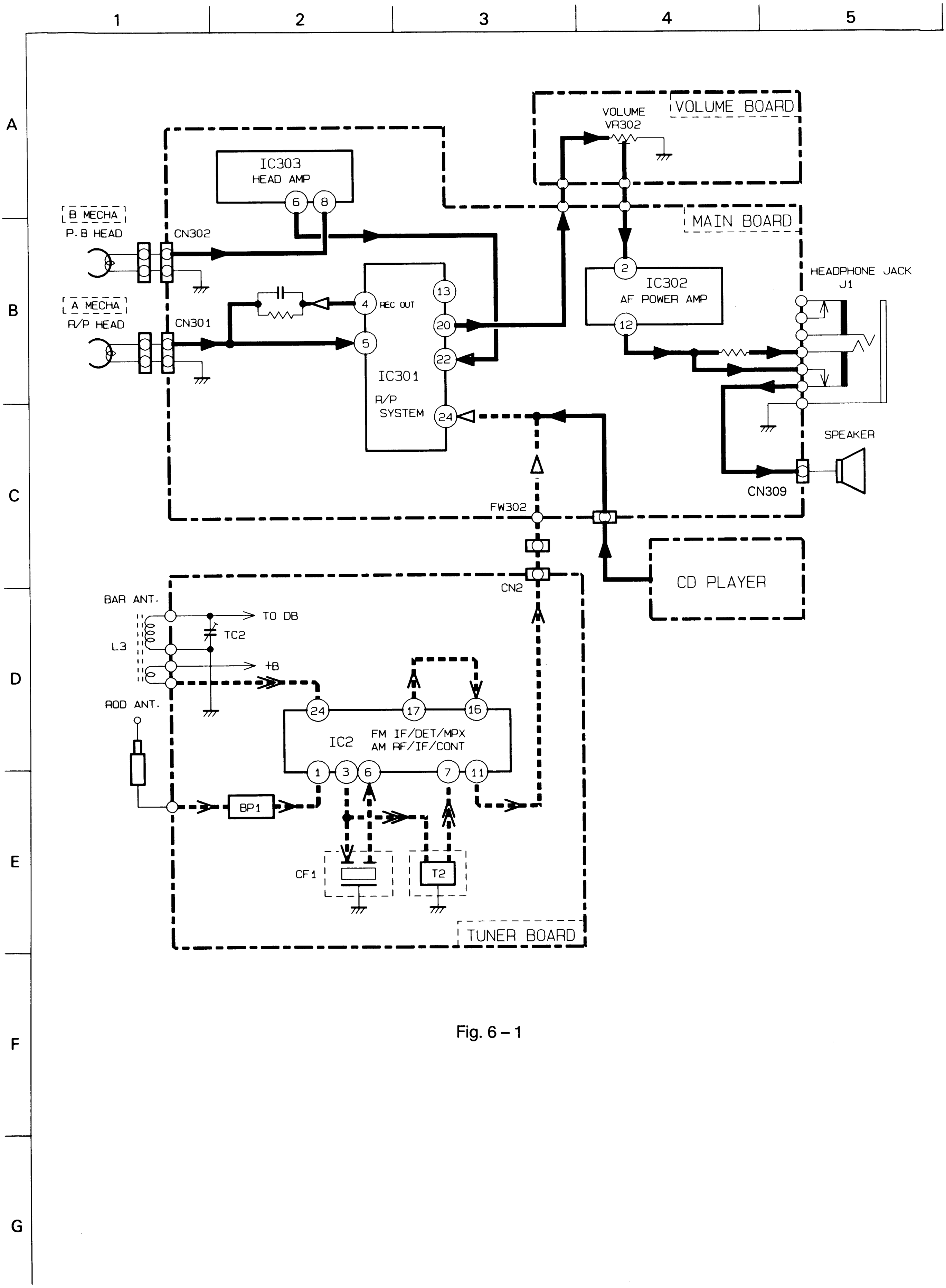
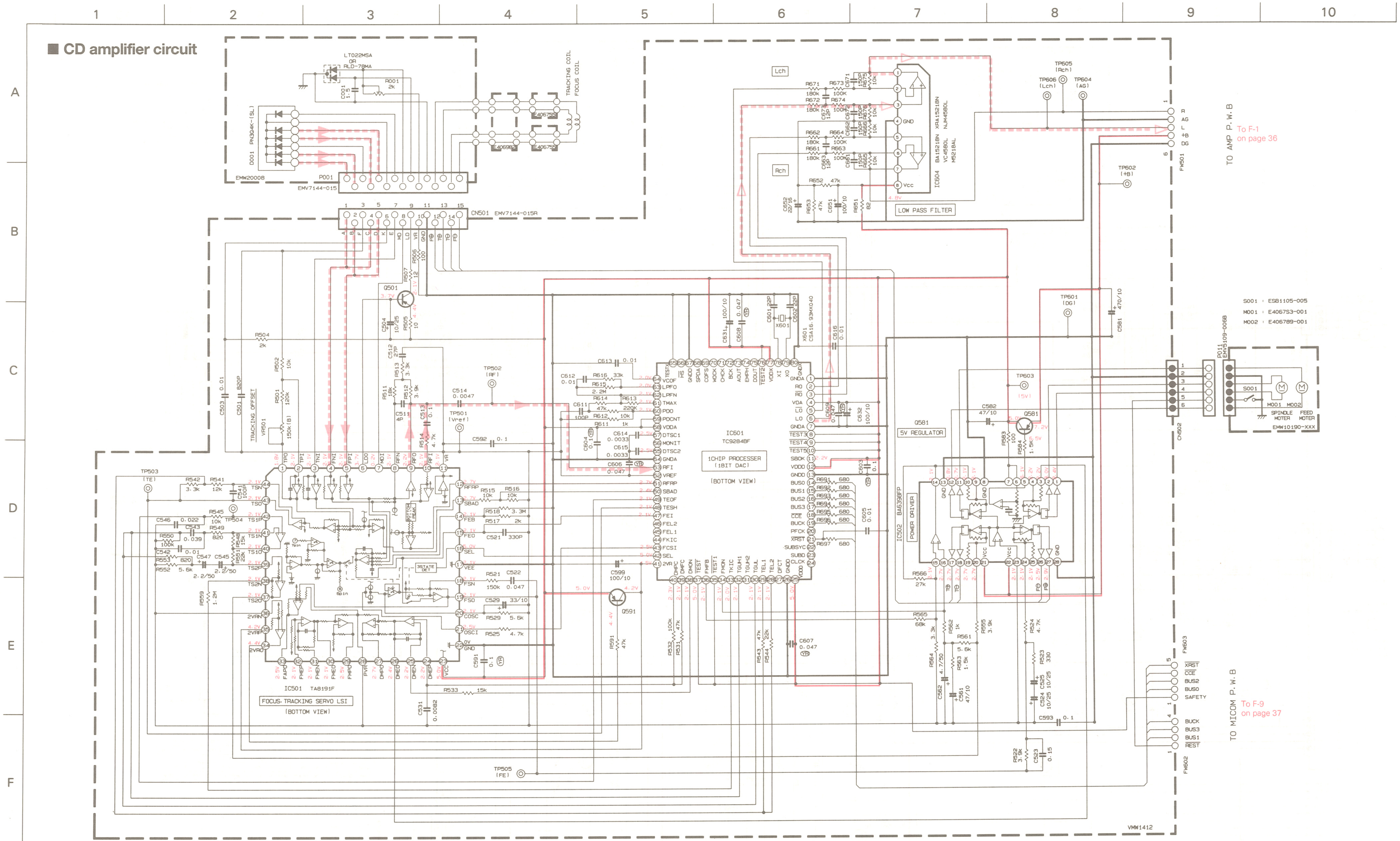

1
2
3
4
5
A
B
C
D
E
F
G
VOLUME BOARD
VOLUME
VR302
IC303
HEAD AMP
6
8
B MECHA
P. B HEAD
CN302
MAIN BOARD
A MECHA
R/P HEAD
CN301
4
REC OUT
13
20
5
22
IC301
R/P
SYSTEM
24
2
IC302
AF POWER AMP
12
HEADPHONE JACK
J1
SPEAKER
CN309
FW302
CN2
CD PLAYER
BAR ANT.
L3
TO DB
TC2
+B
ROD ANT.
24
17
16
IC2
FM IF/DET/MPX
AM RF/IF/CONT
1
3
6
7
11
BP1
CF1
T2
TUNER BOARD

Fig. 6 – 1

7. Standard Schematic Diagram

■ CD amplifier circuit


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
G
LT022MSA OR RLD-78MA
R001 2K
C001
D001 PN304K-(SL)
TRACKING COIL
FOCUS COIL
EMW20008
P001
EMV7144-015
CN501 EMV7144-015R
Q501
TP502 (RF)
TP501 (Vref)
TP503 (TE)
TRACKING OFFSET
VR501
IC501 TA8191F
FOCUS-TRACKING SERVO LSI
(BOTTOM VIEW)
TP505 (FE)
Q591
IC601 TC9284BF
1CHIP PROCESSOR (1BIT DAC)
(BOTTOM VIEW)
X601
Lch
Rch
IC604 BA15218N XRA15218N VC4580L NJM4580L M5218AL
LOW PASS FILTER
TP605 (Rch)
TP606 (Lch)
TP604 (AG)
TP602 (+B)
TP601 (DG)
TP603 (5V)
Q581
5V REGULATOR
IC502 BA6398FP
POWER DRIVER
FW501
TO AMP P.W.B
To F-1 on page 36
S001 : ESB1105-005
M001 : E4067S3-001
M002 : E406789-001
P011 EMV3109-006B
CN502
S001
M001 SPINDLE MOTOR
M002 FEED MOTOR
EMW10190-XXX
FW603
FW602
XRST
CCE
BUS2
BUS0
SAFETY
BUCK
BUS3
BUS1
REST
TO MICOM P.W.B
To F-9 on page 37
VMW1412

NOTES
1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER IN PLAYBACK
2. UNLESS OTHERWISE SPECIFIED, RESISTORS ARE 1/6W ±5% CARBON RESISTOR.
ALL RESISTANCE VALUES ARE IN OHM(Ω).
ALL CAPACITORS ARE CERAMIC CAPACITOR OR MYLAR CAPACITOR.
ALL CAPACITANCE VALUES ARE IN μF(P=pF).
ALL INDUCTANCE VALUES ARE IN μH(m=mH).
ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE (μF)/RATED VOLTAGE (V).

(UF) UNFLAMMABLE CARBON RESISTOR
(MF) METAL FILM RESISTOR
(OM) OXIDE METAL FILM RESISTOR
(LL) ±20% LOW LEAK CURRENT ELECTROLYTIC CAPACITOR
(NP) NON-POLARISED ELECTROLYTIC CAPACITOR
(PP) POLYPROPYLENE CAPACITOR
(PS) POLYSTYROL CAPACITOR

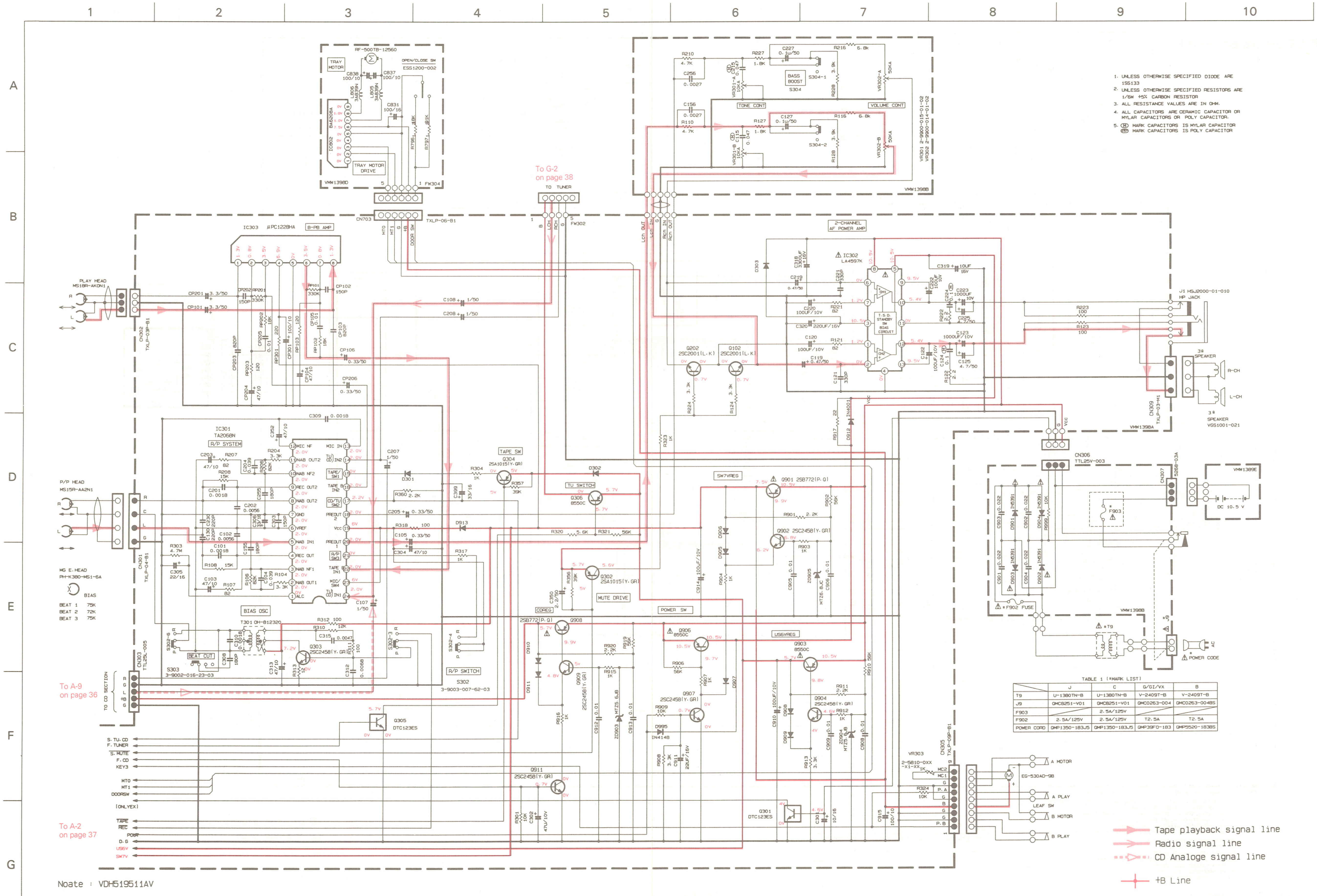
Q501	2SA952(L.K)
Q581	
Q591	2SA1309(R.S) OR 2SA1175(HFE) OR 2SA933S(RS)

- - -▷ CD Digital signsl line
- - -▷ CD Analoge signl line
—+— +B Line

Note : VDH519506CV

Fig. 7-1

■ Pre/power amplifier circuit


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
G
TRAY MOTOR
RF-500TB-12560
OPEN/CLOSE SW
ESS1200-002
BA6209A
IC802
TRAY MOTOR DRIVE
VMW1398D
FW304
CN703
TXLP-06-B1
To G-2
on page 38
TO TUNER
FW302
TONE CONT
VOLUME CONT
BASS BOOST
S304
VR301 2-9900-015-01-02
VR302 2-9900-014-01-02
VMW1398B
IC303 μPC1228HA
B-PB AMP
PLAY HEAD
MS18R-AKON1
2-CHANNEL
AF POWER AMP
IC302
LA4597K
T.S.D.
STANDBY
SW
BIAS
CIRCUIT
Q202 2SC2001(L,K)
Q102 2SC2001(L,K)
J1 HSJ2000-01-010
HP JACK
3Ω
SPEAKER
R-CH
L-CH
3Ω
SPEAKER
VGS1001-021
CN309
TXLP-03-H1
VMW1398A
CN306
TTL25V-003
CN307
VMW1389E
DC 10.5 V
F903
IC301
TA2068N
R/P SYSTEM
P/P HEAD
MS15R-AA2N1
MG E.HEAD
PH-K380-MS1-6A
BIAS
BEAT 1 75K
BEAT 2 72K
BEAT 3 75K
TAPE SW
Q304 2SA1015(Y,GR)
TU SWITCH
Q306 8550C
SW7VREG
Q901 2SB772(P,Q)
Q902 2SC2458(Y,GR)
Q302 2SA1015(Y,GR)
MUTE DRIVE
BIAS OSC
T301 QH-812320
BEAT CUT
Q303 2SC2458(Y,GR)
S303 3-9002-016-23-03
R/P SWITCH
S302
3-9003-007-62-03
CDREG
Q908 2SB772(P,Q)
POWER SW
Q906 8550C
US6VREG
Q903 8550C
Q907 2SC2458(Y,GR)
Q904 2SC2458(Y,GR)
Q909 2SC2458(Y,GR)
D995 1N4148
Q305 DTC123ES
Q911 2SC2458(Y,GR)
Q301 DTC123ES
To A-9
on page 36
TO CD SECTION
CN303 TTL25L-005
CN301 TXLP-04-B1
CN302 TXLP-03P-B1
To A-2
on page 37
S.TU.CD
F.TUNER
S.MUTE
F.CD
KEY3
MTO
MT1
DOORSW
(ONLYEX)
TAPE
REC
POWER
D.G
US6V
SW7V
VR303
2-5810-0XX
-X1-XX
CN305
TXLP-09P-B1
A MOTOR
EG-530AD-9B
A PLAY
LEAF SW
B MOTOR
B PLAY
*F902 FUSE
VMW1398B
*T9
AC
* POWER CODE

1. UNLESS OTHERWISE SPECIFIED DIODE ARE 1SS133
2. UNLESS OTHERWISE SPECIFIED RESISTORS ARE 1/6W ±5% CARBON RESISTOR
3. ALL RESISTANCE VALUES ARE IN OHM.
4. ALL CAPACITORS ARE CERAMIC CAPACITOR OR MYLAR CAPACITORS OR POLY CAPACITOR.
5. (M) MARK CAPACITORS IS MYLAR CAPACITOR
(PP) MARK CAPACITORS IS POLY CAPACITOR

TABLE 1 (*MARK LIST)

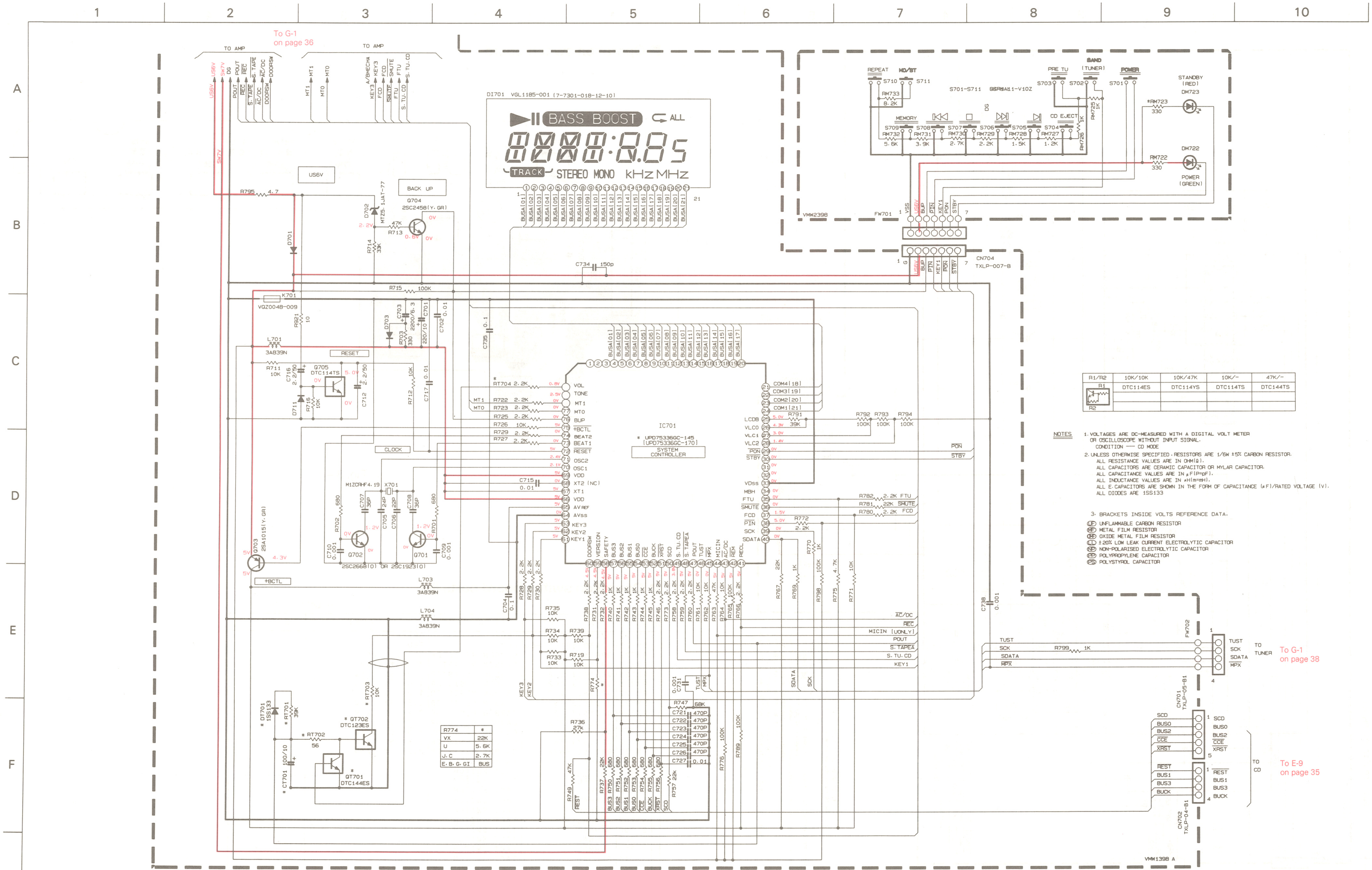
	J	C	G/GI/VX	B
T9	U-1380TN-B	U-1380TN-B	V-2409T-B	V-2409T-B
J9	QMC8251-V01	QMC8251-V01	QMC0263-004	QMC0263-004BS
F903		2.5A/125V		
F902	2.5A/125V	2.5A/125V	T2.5A	T2.5A
POWER CORD	QMP1350-183J5	QMP1350-183J5	QMP39F0-183	QMP5520-183BS

Tape playback signal line
Radio signal line
CD Analoge signal line
+B Line

Noate : VDH519511AV

Fig. 7 – 2

System microprocessor circuit


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
To G-1 on page 36
TO AMP
TO AMP
D1701 VGL1185-001 (7-7301-018-12-10)
BASS BOOST
ALL
TRACK
STEREO MONO KHz MHz
BACK UP
Q704 2SC2458(Y, GR)
D702 MTZ5.1JAT-77
R713 47K
R714 33K
D701
R795 4.7
US6V
C734 150p
R715 100K
K701 VQZ0048-009
L701 3A839N
RESET
Q705 DTC114TS
R711 10K
CLOCK
MIZCRHF4.19 X701
Q702
Q701
2SC2668(O) OR 2SC1923(O)
Q703 2SA1015(Y, GR)
+BCTL
L703 3A839N
L704 3A839N
IC701
UPD75336GC-145 (UPD75336GC-170)
SYSTEM CONTROLLER
VOL
TONE
MT1
MTO
BUP
+BCTL
BEAT2
BEAT1
RESET
OSC2
OSC1
VDD
XT2 (NC)
XT1
VDD
AV REF
AVss
KEY3
KEY2
KEY1
COM4(18)
COM3(19)
COM2(20)
COM1(21)
LCDB
VLC0
VLC1
VLC2
PON
STBY
VDss
MBH
FTU
SMUTE
FCD
PIN
SCK
SDATA
REPEAT
MD/ST
PRE TU
BAND (TUNER)
POWER
STANDBY (RED)
DM723
DM722
POWER (GREEN)
MEMORY
CD EJECT
S701-S711 QSR0411-V10Z
FW701
VMW2398
CN704 TXLP-007-B
AC/DC
REC
MICIN (UONLY)
POUT
S.TAPEA
S.TU.CD
KEY1
TUST
SCK
SDATA
MPX
R799 1K
FW702
TO TUNER
To G-1 on page 38
CN701 TXLP-05-B1
SCD
BUS0
BUS2
CCE
XRST
REST
BUS1
BUS3
BUCK
TO CD
To E-9 on page 35
CN702 TXLP-04-B1
VMW1398 A
Q7702 DTC123ES
Q7701 DTC144ES
D7701 1SS133
R7701 39K
R7702 56
C7701 100/10
R7703 10K

R1/R2	10K/10K	10K/47K	10K/-	47K/-
R1 R2	DTC114ES	DTC114YS	DTC114TS	DTC144TS

NOTES
1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER OR OSCILLOSCOPE WITHOUT INPUT SIGNAL.
CONDITION ---- CD MODE
2. UNLESS OTHERWISE SPECIFIED. RESISTORS ARE 1/6W ±5% CARBON RESISTOR.
ALL RESISTANCE VALUES ARE IN OHM(Ω).
ALL CAPACITORS ARE CERAMIC CAPACITOR OR MYLAR CAPACITOR.
ALL CAPACITANCE VALUES ARE IN μF(P=pF).
ALL INDUCTANCE VALUES ARE IN μH(m=mH).
ALL E. CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE (μF)/RATED VOLTAGE (V).
ALL DIODES ARE 1SS133

3. BRACKETS INSIDE VOLTS REFERENCE DATA.
(UF) UNFLAMMABLE CARBON RESISTOR
(MF) METAL FILM RESISTOR
(OMF) OXIDE METAL FILM RESISTOR
(LL) ±20% LOW LEAK CURRENT ELECTROLYTIC CAPACITOR
(NP) NON-POLARISED ELECTROLYTIC CAPACITOR
(PP) POLYPROPYLENE CAPACITOR
(PS) POLYSTYROL CAPACITOR

R774	*
VX	22K
U	5.6K
J.C	2.7K
E.B.G.GI	BUS

*MARK COUNTERMEASURE OF CPU PROBLEM
ONLY RC-QW20BKJQ #1~#3000
RC-QW20BKCQ #1~#3000
RC-QW20BKBQ #1~#7000
RC-QW20BKEQ #1~#5000
RC-QW20BKENQ #1~#3000
RC-QW20BKGQ #1~#3000

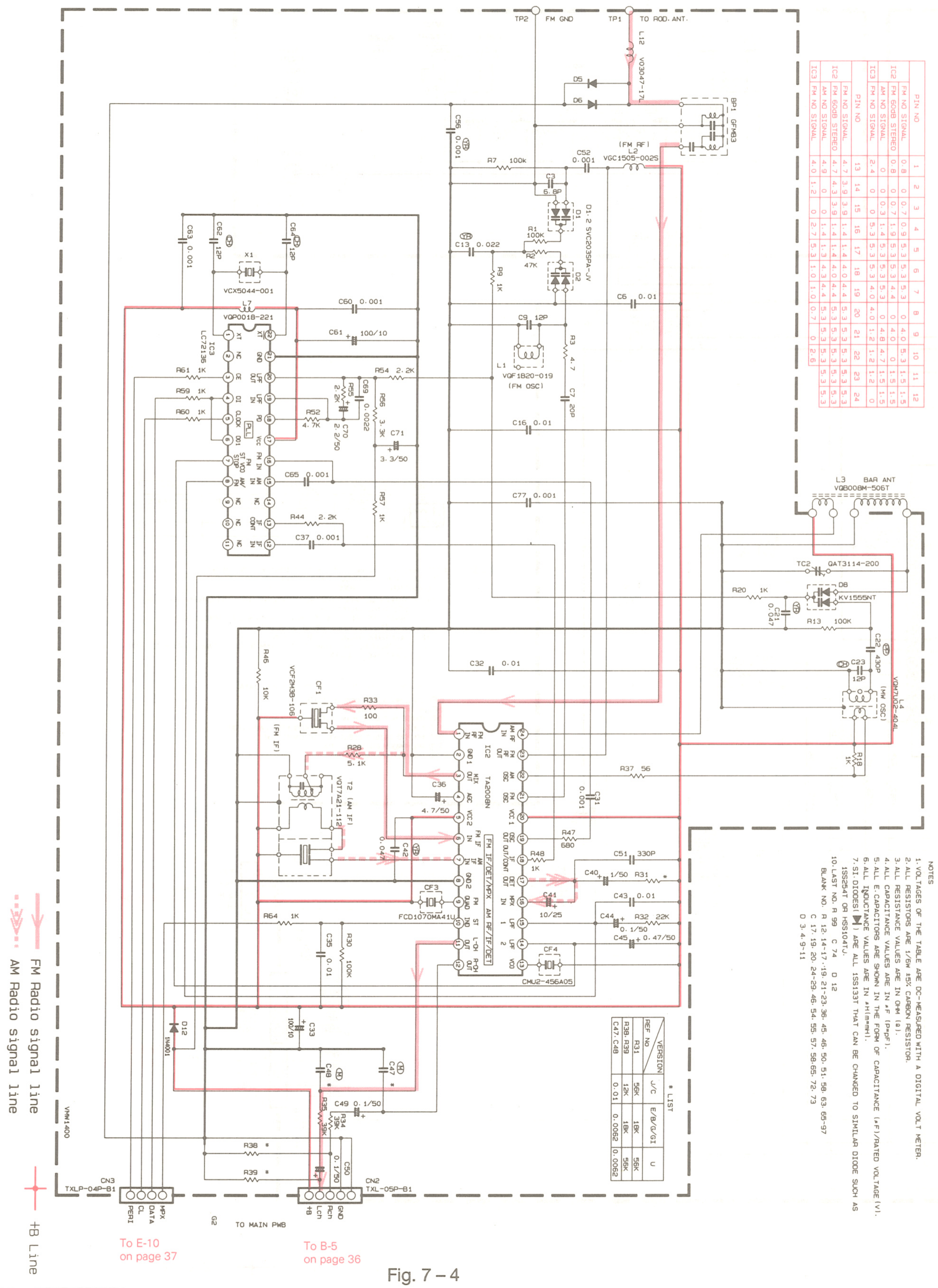
IC701 UPD75336GC-145	UPD75336GC-170
RC-QW20BKJQ #1~ #3000	RC-QW20BKJQ #3001~
RC-QW20BKCQ #1~ #3000	RC-QW20BKCQ #3001~
RC-QW20BKBQ #1~ #7000	RC-QW20BKBQ #7001~
RC-QW20BKEQ #1~ #5000	RC-QW20BKEQ #5001~
RC-QW20BKENQ #1~ #3000	RC-QW20BKENQ #3001~
RC-QW20BKGQ #1~ #3000	RC-QW20BKGQ #3001~

+B Line

Note : VDH519511SV

Fig. 7 – 3

■ Tuner circuit


TP2
FM GND
TP1
TO ROD. ANT.
L12 V03047-17L
D5
D6
BP1 GFMB3
C56 0.001
R7 100K
C52 0.001
L2 VGC1505-002S
(FM RF)
C3 6.8P
D1
D2
D1, 2 SVC203SPA-JV
R1 100K
R2 47K
C13 0.022
R9 1K
C6 0.01
C9 12P
L1 VQF1B20-019 (FM OSC)
R3 4.7
C7 20P
C16 0.01
C77 0.001
X1 VCX5044-001
C62 12P
C64 12P
C63 0.001
L7 VQP0018-221
IC3 LC72136
C60 0.001
C61 100/10
R54 2.2K
R55 2.2K
C69 0.0022
R56 3.3K
C71 3.3/50
R52 4.7K
C70 2.2/50
R61 1K
R59 1K
R60 1K
C65 0.001
R44 2.2K
C37 0.001
R57 1K
L3 BAR ANT VQB008M-506T
TC2 QAT3114-200
D8 KV1555NT
R20 1K
C21 0.047
R13 100K
C22 430P
C23 12P
L4 VQM7U02-404L (MW OSC)
R18 1K
R46 10K
C32 0.01
CF1 VCF2M3B-106
(FM IF)
R33 100
R28 5.1K
T2 (AM IF) VQT7A21-112
C36 4.7/50
C42 0.047
CF3 FCD1070MA41U
IC2 TA2008N
FM IF/DET/MPX AM RF/IF/DET
R37 56
C31 0.001
R47 680
R48 1K
C51 330P
C40 1/50
R31 *
C41 10/25
C43 0.01
C44 0.1/50
R32 22K
C45 0.47/50
CF4 CMU2-456A05
R64 1K
C35 0.01
R30 100K
D12 1N4001
C33 100/10
C47 *
C48 *
C49 0.1/50
R34 39K
R35 39K
C50 0.1/50
R38 *
R39 *
CN3 TXLP-04P-B1
PERI
CL
DATA
MPX
CN2 TXL-05P-B1
+B
Lch
Rch
GND
G2
TO MAIN PWB
VMW1400
To E-10 on page 37
To B-5 on page 36
FM Radio signal line
AM Radio signal line
+B Line

PIN NO		1	2	3	4	5	6	7	8	9	10	11	12
IC2	FM NO SIGNAL	0.8	0	0.7	0.9	5.3	5.3	5.3	0	4.0	5.3	1.5	1.5
	FM 60dB STEREO	0.8	0	0.7	1.9	5.3	5.3	4.4	0	4.0	0	1.5	1.5
	AM NO SIGNAL	0	0	0.3	1.4	5.3	5.3	5.3	0	4.8	4.7	1.5	1.5
IC3	FM NO SIGNAL	2.4	0	0	5.3	5.3	5.3	4.0	4.0	1.2	1.2	1.2	0
PIN NO		13	14	15	16	17	18	19	20	21	22	23	24
IC2	FM NO SIGNAL	4.7	3.9	3.9	1.4	1.4	4.0	4.4	5.3	5.3	5.3	5.3	5.3
	FM 60dB STEREO	4.7	4.3	3.9	1.4	1.4	4.0	4.4	5.3	5.3	5.3	5.3	5.3
	AM NO SIGNAL	4.9	0	0	1.4	1.3	4.3	4.4	5.3	5.3	5.3	5.3	5.3
IC3	FM NO SIGNAL	4.0	1.2	0	2.7	5.3	1.0	1.0	0.7	0	2.6		

NOTES

1. VOLTAGES OF THE TABLE ARE DC-MEASURED WITH A DIGITAL VOLT METER.
2. ALL RESISTORS ARE 1/6W ±5% CARBON RESISTOR.
3. ALL RESISTANCE VALUES ARE IN OHM (Ω).
4. ALL CAPACITANCE VALUES ARE IN μF (P=pF).
5. ALL E. CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE (μF)/RATED VOLTAGE (V).
6. ALL INDUCTANCE VALUES ARE IN μH (m=mH).
7. SI. DIODES (▶|) ARE ALL 1SS133T THAT CAN BE CHANGED TO SIMILAR DIODE SUCH AS 1SS254T OR HSS104TJ.

10. LAST NO. R 99 C 74 D 12
BLANK NO. R 12. 14~17. 19. 21~23. 36. 45. 46. 50. 51. 58. 63. 65~97
C 17. 19. 20. 24~29. 46. 54. 55. 57. 58. 65. 72. 73
D 3. 4. 9~11

* LIST

VERSION / REF No	J/C	E/B/G/GI	U
R31	56K	18K	56K
R38. R39	12K	18K	56K
C47. C48	0.01	0.0062	0.0062

Fig. 7 – 4

Note : VDH519506TW

8. Location of P.C. Board Parts and Parts List

■ Operation switch board

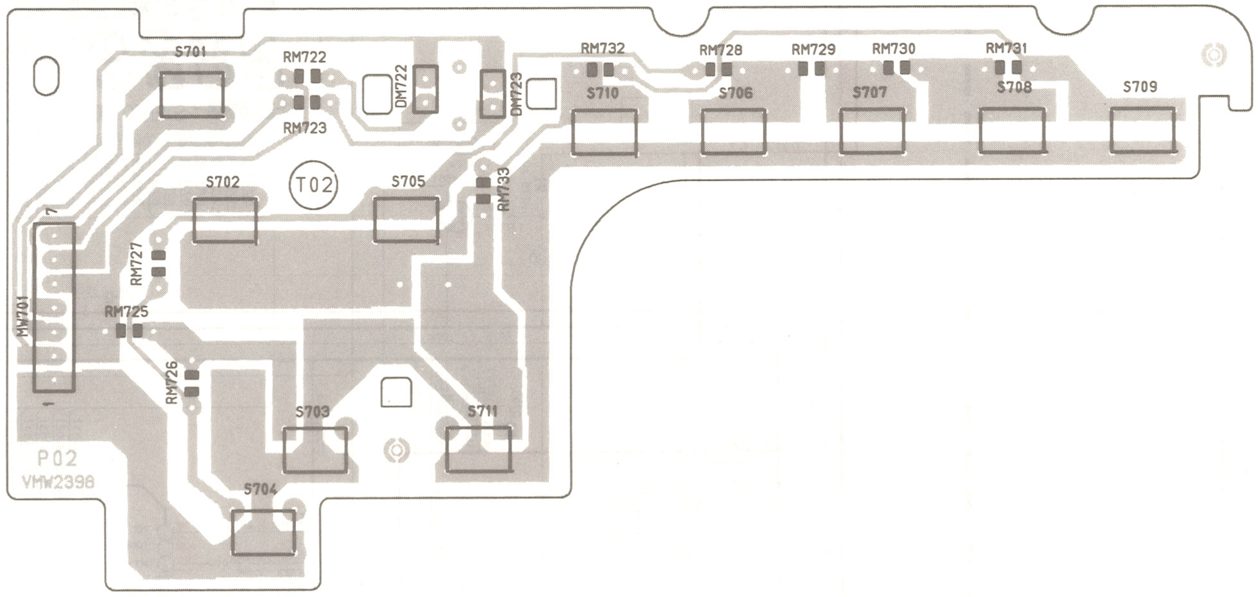

S701
RM722
RM723
DM722
DM723
RM732
S710
RM728
S706
RM729
S707
RM730
RM731
S708
S709
S702
T02
S705
RM733
RM727
RM725
MW701
7
1
RM726
S703
S711
S704
P02
VMW2398

Fig. 8 – 1

● Operation switch board parts list

BLOCK NO. 03

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	DM722	37430-102-11-07	LED	GREEN	
	DM723	37430-101-12-05	LED	RED	
	RM722	QRD161J-331	CARBON RESISTOE	330 5% 1/6W	
	RM723	QRD161J-331	CARBON RESISTOE	330 5% 1/6W	
	RM725	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	RM726	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	RM727	QRD161J-122	CARBON RESISTOR	1.2K 5% 1/6W	
	RM728	QRD161J-152	CARBON RESISTOR	1.5K 5% 1/6W	
	RM729	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	RM730	QRD161J-272	CARBON RESISTOR	2.7K 5% 1/6W	
	RM731	QRD161J-392	CARBON RESISTOR	3.9K 5% 1/6W	
	RM732	QRD167J-562	CARBON RESISTOR	5.6K 5% 1/6W	
	RM733	QRD161J-822	CARBON RESISTOR	8.2K 5% 1/6W	
	S 701	SKHHAL	TACT SWITCH		
	S 702	SKHHAL	TACT SWITCH		
	S 703	SKHHAL	TACT SWITCH		
	S 704	SKHHAL	TACT SWITCH		
	S 705	SKHHAL	TACT SWITCH		
	S 706	SKHHAL	TACT SWITCH		
	S 707	SKHHAL	TACT SWITCH		
	S 708	SKHHAL	TACT SWITCH		
	S 709	SKHHAL	TACT SWITCH		
	S 710	SKHHAL	TACT SWITCH		
	S 711	SKHHAL	TACT SWITCH		

■ Tuner board

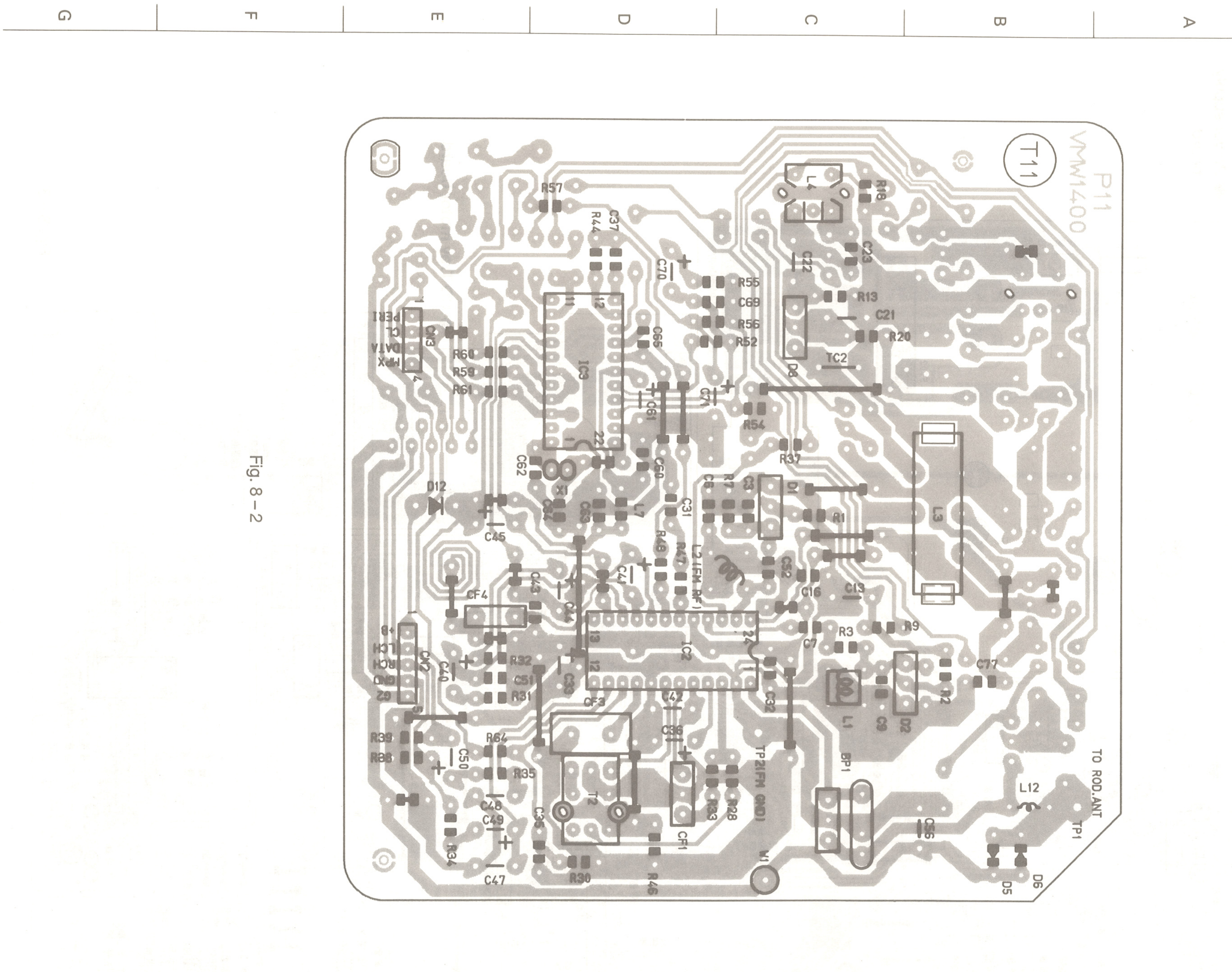

1
2
3
4
5
A
B
C
D
E
F
G
P11
VMW1400
T11
TO ROD.ANT
TP1
D6
D5
L12
C56
BP1
W1
TP2(FM GND)
R28
R33
CF1
R46
T2
R30
C35
C47
R34
C49
C48
C50
R35
R64
R39
R38
L3
L1
D2
C9
R2
R9
C77
R3
C13
C16
C7
C32
IC2
24
13
12
C42
C36
CF3
C33
C51
R31
R32
CN2
B+
RCH
LCH
GND
CF4
C40
C43
C44
C41
C45
D12
C63
C64
X1
C62
L7
L2(FM RF)
R47
R48
C31
C60
C61
C71
IC3
11
12
22
C65
C70
C37
R44
R57
CN3
PERI
CL
DATA
MAX
R60
R59
R61
R55
C69
R56
R52
R54
R37
D1
R1
C3
R7
C8
C52
D8
TC2
C21
R20
R13
C22
C23
R18
L4

Fig. 8－2

● Tuner board parts list

BLOCK NO. 02

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	BP 1	VBP4M3B-007Z	BAND PASS FILTE		
	C 3	QCSB1HK-6R8Y	C.CAPACITOR	6.8PF 10% 50V	
	C 6	QCVB1CN-103Y	C.CAPACITOR	.010MF 30% 16V	
	C 7	QCS11HJ-200	C.CAPACITOR	20PF 5% 50V	
	C 9	QCSB1HJ-120Y	C.CAPACITOR	12PF 5% 50V	
	C 13	QCC11EM-223V	C.CAPACITOR	.022MF 20% 25V	
	C 16	QCVB1CN-103Y	C.CAPACITOR	.010MF 30% 16V	
	C 21	QCC11EM-473V	C.CAPACITOR	.047MF 20% 25V	
	C 22	QFG32AJ-431ZN	PP CAPACITOR	430PF 5% 100V	
	C 23	QCT30CH-120Y	C.CAPACITOR	12PF 5% 50V	
	C 31	QCBB1HK-102Y	C.CAPACITOR	1000PF 10% 50V	
	C 32	QCVB1CN-103Y	C.CAPACITOR	.010MF 30% 16V	
	C 33	QET41AM-107	E.CAPACITOR	100MF 20% 10V	
	C 35	QCVB1CN-103Y	C.CAPACITOR	.010MF 30% 16V	
	C 36	QET41HM-475	E.CAPACITOR	4.7MF 20% 50V	
	C 37	QCBB1HK-102Y	C.CAPACITOR	1000PF 10% 50V	
	C 40	QET41HM-105	E.CAPACITOR	1.0MF 20% 50V	
	C 41	QET41CM-106	E.CAPACITOR	10MF 20% 16V	
	C 42	QCC11EM-473V	C.CAPACITOR	.047MF 20% 25V	
	C 43	QCVB1CN-103Y	C.CAPACITOR	.010MF 30% 16V	
	C 44	QETC1HM-104ZN	E.CAPACITOR	.10MF 20% 50V	
	C 45	QET41HM-474	E.CAPACITOR	.47MF 20% 50V	
	C 47	QFN41HJ-682	M CAPACITOR	6800PF 5% 50V	
	C 48	QFN41HJ-682	M CAPACITOR	6800PF 5% 50V	
	C 49	QETC1HM-104ZN	E.CAPACITOR	.10MF 20% 50V	
	C 50	QETC1HM-104ZN	E.CAPACITOR	.10MF 20% 50V	
	C 51	QCBB1HK-331Y	C.CAPACITOR	330PF 10% 50V	
	C 52	QCBB1HK-102Y	C.CAPACITOR	1000PF 10% 50V	
	C 56	QCY41HK-102	C.CAPACITOR	1000PF 10% 50V	
	C 60	QCBB1HK-102Y	C.CAPACITOR	1000PF 10% 50V	
	C 61	QET41AM-107	E.CAPACITOR	100MF 20% 10V	
	C 62	QCT30CH-120Y	C.CAPACITOR	12PF 5% 50V	
	C 63	QCBB1HK-102Y	C.CAPACITOR	1000PF 10% 50V	
	C 64	QCT30CH-120Y	C.CAPACITOR	12PF 5% 50V	
	C 65	QCBB1HK-102Y	C.CAPACITOR	1000PF 10% 50V	
	C 69	QCXB1CM-222Y	C.CAPACITOR	2200PF 20% 16V	
	C 70	QETC1HM-225ZN	E.CAPACITOR	2.2MF 20% 50V	
	C 71	QETC1HM-335ZN	E.CAPACITOR	3.3MF 20% 50V	
	C 77	QCBB1HK-102Y	C.CAPACITOR	1000PF 10% 50V	
	CF 1	VCF2M3B-106	C FILTER		
	CF 3	VCF1Z2Z-117Z	C FILTER		
	CF 4	CMU2-456A05	CERA LOCK		
	CN 2	TXLP-005-B	CONNECTOR		
	CN 3	TXLP-004-B	CONNECTOR		
	D 1	SVC203SPA-AB-AL	VARI CAP		
	D 2	SVC203SPA-AB-AL	VARI CAP		
	D 5	1SS133	SI DIODE		
	D 6	1SS133	SI DIODE		
	D 8	KV1555NT	VARI CAP		
	D 12	1N4001	DIODE		
	IC 2	TA2008N	IC		
	IC 3	LC72136	IC		
	L 1	VQF1B20-019	OSC COIL		
	L 2	VQC1505-002	RF COIL		
	L 3	VQB008M-506	BAR ANTENA		

BLOCK NO. 02

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	L 4	VQM7U02-404	OSC COIL(MW)		
	L 7	VQP0018-221	INDUCTOR		
	L 12	V03047-17	INDUCTOR		
	R 1	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R 2	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R 3	QRD167J-4R7	CARBON RESISTOR	4.7 5% 1/6W	
	R 7	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R 9	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 13	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R 18	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 20	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 28	QRD161J-512	CARBON RESISTOR	5.1K 5% 1/6W	
	R 30	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R 31	QRD161J-183	CARBON RESISTOR	18K 5% 1/6W	
	R 32	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 33	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	R 34	QRD161J-393	CARBON RESISTOR	39K 5% 1/6W	
	R 35	QRD161J-393	CARBON RESISTOR	39K 5% 1/6W	
	R 37	QRD161J-560	CARBON RESISTOR	56 5% 1/6W	
	R 38	QRD161J-183	CARBON RESISTOR	18K 5% 1/6W	
	R 39	QRD161J-183	CARBON RESISTOR	18K 5% 1/6W	
	R 44	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 46	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 47	QRD161J-681	CARBON RESISTOR	680 5% 1/6W	
	R 48	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 52	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R 54	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 55	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 56	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	R 57	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 59	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 60	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 61	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 64	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	T 2	VQT7A21-112	IFT		
	TC 2	QAT3114-200Z	T CAPACITOR		
	X 1	VCX5044-001	CRYSTAL		

■ Main board

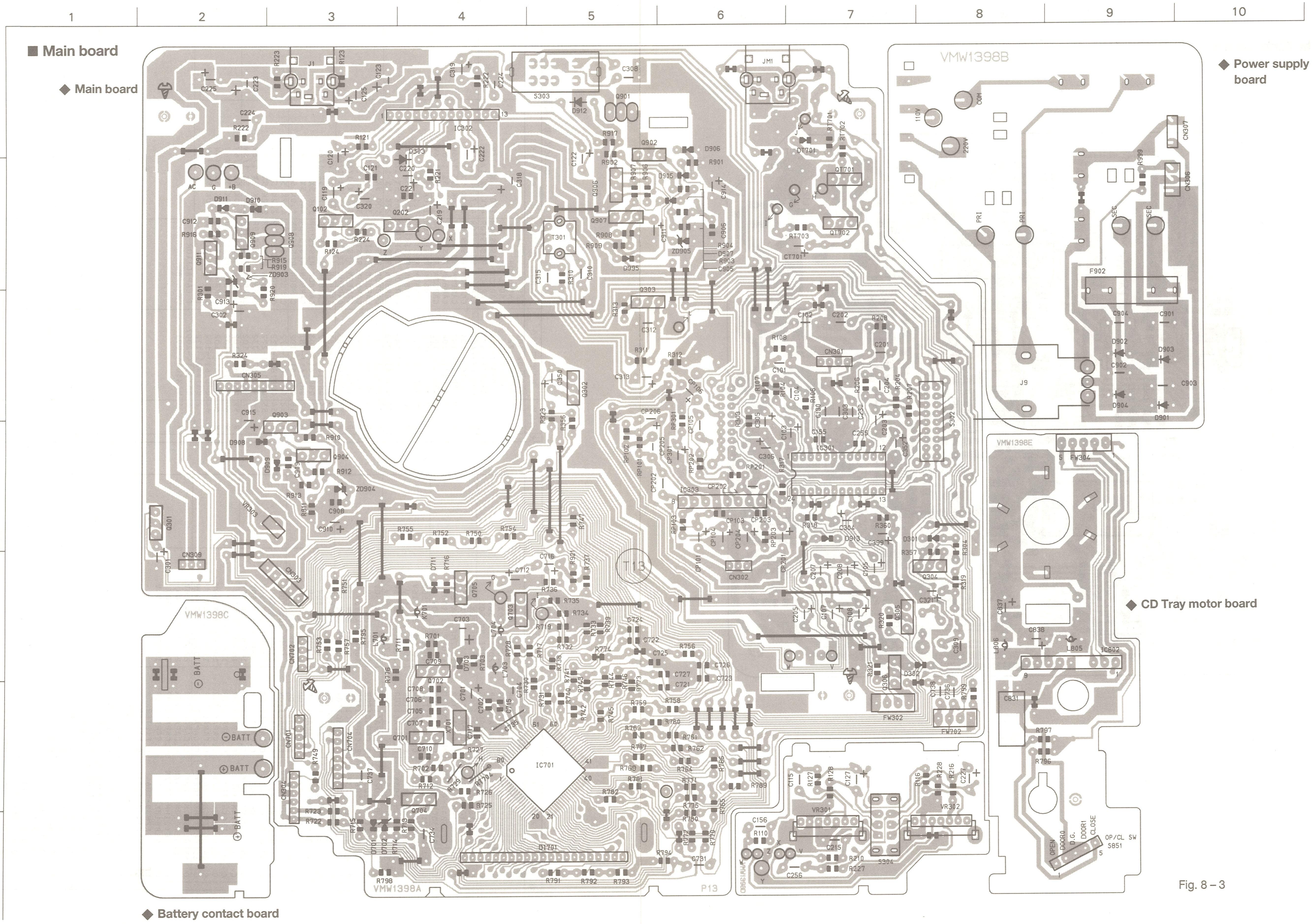

1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
G
◆ Main board
◆ Power supply board
◆ CD Tray motor board
◆ Battery contact board
VMW1398A
VMW1398B
VMW1398C
VMW1398E
IC701
IC302
IC301
IC303
IC802
J9
F902
T301
S303
S304
S302
S851
OP/CL SW
VR301
VR302
P13

Fig. 8 – 3

● Main board parts list

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	BM 01	VYH7992-001	BUS WIRE	FOR NOISE CANCE	
	C 101	QFN41HJ-182	M.CAPACITOR	1800PF 5% 50V	
	C 102	QFN81HJ-562	M.CAPACITOR	5600PF 5% 50V	
	C 103	QET41AM-476	E.CAPACITOR	47MF 20% 10V	
	C 104	QFV41HJ-393ZM	FILM CAPACITOR	.039MF 5% 50V	
	C 105	QETC1HM-334Z	E.CAPACITOR	.33MF 20% 50V	
	C 107	QET41HM-105	E.CAPACITOR	1.0MF 20% 50V	
	C 108	QET41HM-105	E.CAPACITOR	1.0MF 20% 50V	
	C 115	QFV81HJ-473	FILM CAPACITOR	.047MF 5% 50V	
	C 119	QET41HM-474	E.CAPACITOR	.47MF 20% 50V	
	C 120	QET41AM-107	E.CAPACITOR	100MF 20% 10V	
	C 121	QCBB1HK-331Y	C.CAPACITOR	330PF 10% 50V	
	C 122	QET41AM-107	E.CAPACITOR	100MF 20% 10V	
	C 123	QET41AM-108	E.CAPACITOR	1000MF 20% 10V	
	C 124	QFV41HJ-104ZM	FILM CAPACITOR	.10MF 5% 50V	
	C 125	QER41EM-475VM	E.CAPACITOR	4.7MF 20% 25V	
	C 127	QETC1HM-224Z	E.CAPACITOR	.22MF 20% 50V	
	C 130	QCS11HJ-221	C.CAPACITOR	220PF 5% 50V	
	C 155	QCBB1HK-181Y	C.CAPACITOR	180PF 10% 50V	
	C 156	QFN41HJ-332	M CAPACITOR	3300PF 5% 50V	
	C 201	QFN41HJ-182	M.CAPACITOR	1800PF 5% 50V	
	C 202	QFN81HJ-562	M.CAPACITOR	5600PF 5% 50V	
	C 203	QET41AM-476	E.CAPACITOR	47MF 20% 10V	
	C 204	QFV41HJ-393ZM	FILM CAPACITOR	.039MF 5% 50V	
	C 205	QETC1HM-334Z	E.CAPACITOR	.33MF 20% 50V	
	C 207	QET41HM-105	E.CAPACITOR	1.0MF 20% 50V	
	C 208	QET41HM-105	E.CAPACITOR	1.0MF 20% 50V	
	C 215	QFV81HJ-473	FILM CAPACITOR	.047MF 5% 50V	
	C 219	QET41HM-474	E.CAPACITOR	.47MF 20% 50V	
	C 220	QET41AM-107	E.CAPACITOR	100MF 20% 10V	
	C 221	QCBB1HK-331Y	C.CAPACITOR	330PF 10% 50V	
	C 222	QET41AM-107	E.CAPACITOR	100MF 20% 10V	
	C 223	QET41AM-108	E.CAPACITOR	1000MF 20% 10V	
	C 224	QFV41HJ-104ZM	FILM CAPACITOR	.10MF 5% 50V	
	C 225	QER41EM-475VM	E.CAPACITOR	4.7MF 20% 25V	
	C 227	QETC1HM-224Z	E.CAPACITOR	.22MF 20% 50V	
	C 230	QCS11HJ-221	C.CAPACITOR	220PF 5% 50V	
	C 255	QCBB1HK-181Y	C.CAPACITOR	180PF 10% 50V	
	C 256	QFN41HJ-332	M CAPACITOR	3300PF 5% 50V	
	C 301	QET41EM-106	E.CAPACITOR	10MF 20% 25V	
	C 302	QET41AM-476	E.CAPACITOR	47MF 20% 10V	
	C 303	QCS11HJ-151	C.CAPACITOR	150PF 5% 50V	
	C 304	QET41AM-476	E.CAPACITOR	47MF 20% 10V	
	C 305	QET41CM-226	E.CAPACITOR	22MF 20% 16V	
	C 306	QET41CM-336	E.CAPACITOR	33MF 20% 16V	
	C 308	QCS11HJ-181	C.CAPACITOR	180PF 5% 50V	
	C 309	QFN41HJ-182	M.CAPACITOR	1800PF 5% 50V	
	C 310	QFN41HJ-182	M.CAPACITOR	1800PF 5% 50V	
	C 312	QFN41HJ-682	M CAPACITOR	6800PF 5% 50V	
	C 313	QET41AM-476	E.CAPACITOR	47MF 20% 10V	
	C 315	QFN41HJ-472	M CAPACITOR	4700PF 5% 50V	
	C 318	QETB1CM-338M	E.CAPACITOR	3300MF 20% 16V	
	C 319	QET41EM-106	E.CAPACITOR	10MF 20% 25V	
	C 320	QET41CM-227	E.CAPACITOR	220MF 20% 16V	
	C 350	QETC1HM-225ZN	E.CAPACITOR	2.2MF 20% 50V	
	C 352	QET41AM-476	E.CAPACITOR	47MF 20% 10V	
	C 399	QET41CM-336	E.CAPACITOR	33MF 20% 16V	
	C 701	QET41AM-227	E.CAPACITOR	220MF 20% 10V	
	C 702	QCVB1CM-103Y	C.CAPACITOR	.010MF 20% 16V	
	C 703	QETM0JM-228	E CAPACITOR	2200MF 20% 6.3V	
	C 704	QFV41HJ-104ZM	TF CAPACITOR	.10MF 5% 50V	
	C 705	QCS11HJ-240	C.CAPACITOR	24PF 5% 50V	
	C 706	QCS11HJ-220	C.CAPACITOR	22PF 5% 50V	
	C 707	QCS11HJ-360	C.CAPACITOR	36PF 5% 50V	
	C 708	QCS11HJ-360	C.CAPACITOR	36PF 5% 50V	
	C 709	QCBB1HK-102Y	C.CAPACITOR	1000PF 10% 50V	
	C 710	QCBB1HK-102Y	C.CAPACITOR	1000PF 10% 50V	
	C 712	QETC1HM-225ZN	E.CAPACITOR	2.2MF 20% 50V	
	C 715	QCVB1CM-103Y	C.CAPACITOR	.010MF 20% 16V	
	C 716	QETC1HM-225ZN	E.CAPACITOR	2.2MF 20% 50V	
	C 717	QCVB1CM-103Y	C.CAPACITOR	.010MF 20% 16V	
	C 721	QCBB1HK-471Y	C.CAPACITOR	470PF 10% 50V	
	C 722	QCBB1HK-471Y	C.CAPACITOR	470PF 10% 50V	
	C 723	QCBB1HK-471Y	C.CAPACITOR	470PF 10% 50V	
	C 724	QCBB1HK-471Y	C.CAPACITOR	470PF 10% 50V	
	C 725	QCBB1HK-471Y	C.CAPACITOR	470PF 10% 50V	
	C 726	QCBB1HK-471Y	C.CAPACITOR	470PF 10% 50V	
	C 727	QCVB1CM-103Y	C.CAPACITOR	.010MF 20% 16V	
	C 731	QCY41HK-102	C.CAPACITOR	1000PF 10% 50V	
	C 734	QCS11HJ-151	C.CAPACITOR	150PF 5% 50V	
	C 735	QCC11EM-104V	C.CAPACITOR	.10MF 20% 25V	
	C 738	QCY41HK-102	C.CAPACITOR	1000PF 10% 50V	
	C 831	QET41AM-107	E.CAPACITOR	100MF 20% 10V	
	C 837	QET41AM-107	E.CAPACITOR	100MF 20% 10V	
	C 838	QET41AM-107	E.CAPACITOR	100MF 20% 10V	
	C 901	QCC11EM-223V	C.CAPACITOR	.022MF 20% 25V	
	C 902	QCC11EM-223V	C.CAPACITOR	.022MF 20% 25V	
	C 903	QCC11EM-223V	C.CAPACITOR	.022MF 20% 25V	
	C 904	QCC11EM-223V	C.CAPACITOR	.022MF 20% 25V	
	C 905	QCVB1CM-103Y	C.CAPACITOR	.010MF 20% 16V	
	C 906	QCVB1CM-103Y	C.CAPACITOR	.010MF 20% 16V	
	C 908	QCVB1CM-103Y	C.CAPACITOR	.010MF 20% 16V	
	C 909	QCVB1CM-103Y	C.CAPACITOR	.010MF 20% 16V	
	C 910	QET41AM-107	E.CAPACITOR	100MF 20% 10V	
	C 911	QET41CM-226	E.CAPACITOR	22MF 20% 16V	
	C 912	QCVB1CM-103Y	C.CAPACITOR	.010MF 20% 16V	
	C 913	QCVB1CM-103Y	C.CAPACITOR	.010MF 20% 16V	
	C 914	QET41AM-107	E.CAPACITOR	100MF 20% 10V	
	C 915	QET41AM-107	E.CAPACITOR	100MF 20% 10V	
	CN301	TXLP-004-B	CONNECTOR	A HEAD	
	CN302	TXLP-003-B	CONNECTOR	B HEAD	
	CN303	TTL25L-005	CONNECTOR	CD	
	CN305	TXLP-009-B	CONNECTOR	C MECHA	
	CN306	TTL25L-003	CONNECTOR	MAIN	
	CN307	5268-03A	CONNECTOR	BATTERY	
	CN309	TXLL-003-M	CONNECTOR	SPEAKER	
	CN701	TXLP-005-B	CONNECTOR	CD	
	CN702	TXLP-004-B	CONNECTOR	CD	
	CN703	TXLP-006-B	CONNECTOR	CD TRAY	
	CN704	TXLP-007-B	CONNECTOR	SWITCH PCB	

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	CP101	QETC1HM-335Z	E.CAPACITOR	3.3MF 20% 50V	
	CP102	QCS11HJ-151	C.CAPACITOR	150PF 5% 50V	
	CP103	QCBB1HK-821Y	C.CAPACITOR	820PF 10% 50V	
	CP104	QET41AM-476	E.CAPACITOR	47MF 20% 10V	
	CP105	QCVB1CM-103Y	C.CAPACITOR	.010MF 20% 16V	
	CP106	QETC1HM-334Z	E.CAPACITOR	.33MF 20% 50V	
	CP201	QETC1HM-335Z	E.CAPACITOR	3.3MF 20% 50V	
	CP202	QCS11HJ-151	C.CAPACITOR	150PF 5% 50V	
	CP203	QCBB1HK-821Y	C.CAPACITOR	820PF 10% 50V	
	CP204	QET41AM-476	E.CAPACITOR	47MF 20% 10V	
	CP205	QCVB1CM-103Y	C.CAPACITOR	.010MF 20% 16V	
	CP206	QETB1HM-334	E.CAPACITOR	.33MF 20% 50V	
	CP301	QET41AM-107	E.CAPACITOR	100MF 20% 10V	
	D 301	1SS133	SI DIODE		
	D 302	1SS133	SI DIODE		
	D 303	1SS133	SI DIODE		
	D 701	1SS133	SI DIODE		
	D 702	MTZ5.1JAT-77	ZENER DIODE		
	D 703	1SS133	SI DIODE		
	D 711	1SS133	SI DIODE		
	D 901	IN5391	DIODE		
	D 902	IN5391	DIODE		
	D 903	IN5391	DIODE		
	D 904	IN5391	DIODE		
	D 905	1SS133	SI DIODE		
	D 906	1SS133	SI DIODE		
	D 907	1SS133	SI DIODE		
	D 908	1SS133	SI DIODE		
	D 909	1SS133	SI DIODE		
	D 910	1SS133	SI DIODE		
	D 911	1SS133	SI DIODE		
	D 912	1N4001	DIODE		
	D 913	1SS133	SI DIODE		
	D 995	1SS133	SI DIODE		
	DI701	VGL1185-001	LCD		
	IC301	TA2068N	IC	PB AND R/P AMP	
	IC302	LA4597K	IC	POWER AMP	
	IC303	UPC1228HA	IC	B PB AMP	
	IC701	UPD75336GC-170	IC	SYSTEM MICON	
	IC802	BA6208A	IC	TRAY MOTOR DRIV	
	J 1	HSJ2000-01-010	HEADPHONE JACK		
	J 9	QMC0263-004BS	AC SOCKET		B
	J 9	QMC0263-004	AC SOCKET		E,EN,G,GI
	K 701	VQZ0048-009	INDUCTOR		
	L 701	3A839N	INDUCTOR		
	L 703	3A839N	INDUCTOR		
	L 704	3A839N	INDUCTOR		
	L 805	3A839N	INDUCTOR		
	L 806	3A839N	INDUCTOR		
	Q 102	2SC2001(L,K)	TRANSISTOR		
	Q 202	2SC2001(L,K)	TRANSISTOR		
	Q 301	DTC123ES	TRANSISTOR		
	Q 302	2SA1015(Y,GR)	TRANSISTOR		
	Q 303	2SC2458	TRANSISTOR		
	Q 304	2SA1015(Y,GR)	TRANSISTOR		

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	Q 305	DTC123ES	TRANSISTOR		
	Q 306	8550C	SI.TRANSISTOR		
	Q 701	2SC1923	TRANSISTOR		
	Q 702	2SC1923	TRANSISTOR		
	Q 703	2SA1015(Y,GR)	TRANSISTOR		
	Q 704	2SC2458	TRANSISTOR		
	Q 705	DTC114TSTP	TRANSISTOR		
	Q 901	2SB772(Q,P)	TRANSISTOR		
	Q 902	2SC2458	TRANSISTOR		
	Q 903	8550C	SI.TRANSISTOR		
	Q 904	2SC2458	TRANSISTOR		
	Q 906	8550C	SI.TRANSISTOR		
	Q 907	2SC2458	TRANSISTOR		
	Q 908	2SB772(Q,P)	TRANSISTOR		
	Q 909	2SC2458	TRANSISTOR		
	Q 911	2SC2458	TRANSISTOR		
	R 104	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	R 106	QRD161J-823	CARBON RESISTOR	82K 5% 1/6W	
	R 107	QRD161J-820	CARBON RESISTOR	82 5% 1/6W	
	R 108	QRD161J-153	CARBON RESISTOR	15K 5% 1/6W	
	R 110	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	R 121	QRD161J-820	CARBON RESISTOR	82 5% 1/6W	
	R 122	QRD161J-2R2	CARBON RESISTOR	2.2 5% 1/6W	
	R 123	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	R 124	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	R 127	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 128	QRD161J-182	CARBON RESISTOR	1.8K 5% 1/6W	
	R 204	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	R 206	QRD161J-823	CARBON RESISTOR	82K 5% 1/6W	
	R 207	QRD161J-820	CARBON RESISTOR	82 5% 1/6W	
	R 208	QRD161J-153	CARBON RESISTOR	15K 5% 1/6W	
	R 210	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	R 221	QRD161J-820	CARBON RESISTOR	82 5% 1/6W	
	R 222	QRD161J-2R2	CARBON RESISTOR	2.2 5% 1/6W	
	R 223	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	R 224	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	R 227	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 228	QRD161J-182	CARBON RESISTOR	1.8K 5% 1/6W	
	R 301	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 303	QRD161J-475	CARBON RESISTOR	4.7M 5% 1/6W	
	R 304	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 310	QRD161J-123	CARBON RESISTOR	12K 5% 1/6W	
	R 311	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	R 312	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	R 313	QRD161J-120	CARBON RESISTOR	12 5% 1/6W	
	R 317	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 318	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	R 320	QRD167J-562	CARBON RESISTOR	5.6K 5% 1/6W	
	R 321	QRD167J-562	CARBON RESISTOR	5.6K 5% 1/6W	
	R 323	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 324	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 356	QRD161J-393	CARBON RESISTOR	39K 5% 1/6W	
	R 357	QRD161J-393	CARBON RESISTOR	39K 5% 1/6W	
	R 360	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 701	QRD161J-681	CARBON RESISTOR	680 5% 1/6W	

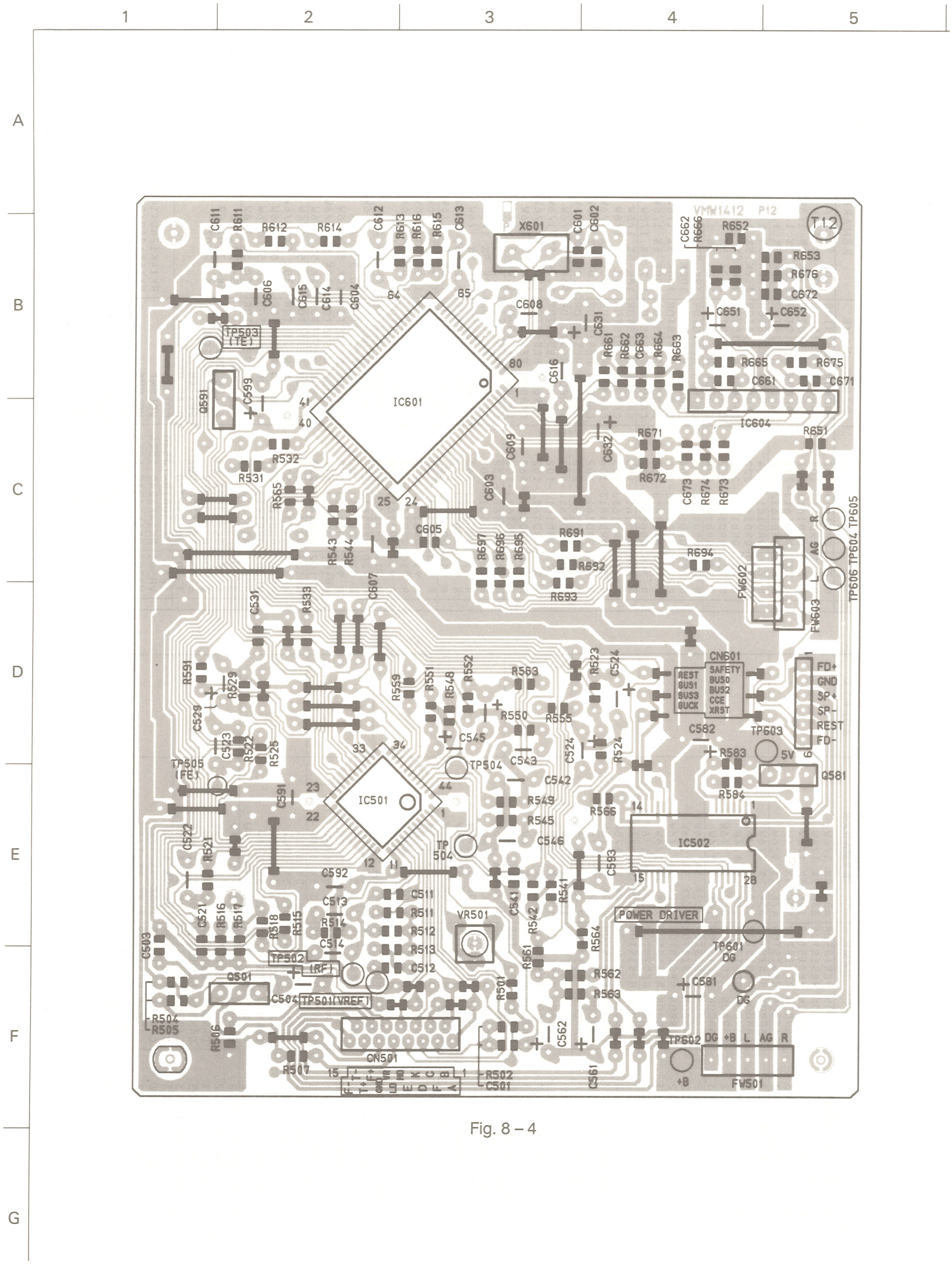
BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R 702	QRD161J-681	CARBON RESISTOR	680 5% 1/6W	
	R 703	QRD161J-331	CARBON RESISTOE	330 5% 1/6W	
	R 711	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 712	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 713	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R 714	QRD161J-333	CARBON RESISTOR	33K 5% 1/6W	
	R 715	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R 716	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 717	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 719	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 722	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 723	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 725	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 726	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 727	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 728	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 729	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 730	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 731	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 732	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 733	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 734	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 735	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 736	QRD161J-273	CARBON RESISTOR	27K 5% 1/6W	
	R 737	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 738	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 739	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 740	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 741	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 742	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 743	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 744	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 745	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 746	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 747	QRD161J-683	CARBON RESISTOR	68K 5% 1/6W	
	R 749	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R 750	QRD161J-681	CARBON RESISTOR	680 5% 1/6W	
	R 751	QRD161J-681	CARBON RESISTOR	680 5% 1/6W	
	R 752	QRD161J-681	CARBON RESISTOR	680 5% 1/6W	
	R 753	QRD161J-681	CARBON RESISTOR	680 5% 1/6W	
	R 754	QRD161J-681	CARBON RESISTOR	680 5% 1/6W	
	R 755	QRD161J-681	CARBON RESISTOR	680 5% 1/6W	
	R 756	QRD161J-681	CARBON RESISTOR	680 5% 1/6W	
	R 757	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 758	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 759	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 760	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 761	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 762	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 763	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R 764	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 765	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R 766	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 767	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 769	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R 770	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 771	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 772	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 773	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 775	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R 776	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R 780	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 781	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 782	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 789	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R 791	QRD161J-393	CARBON RESISTOR	39K 5% 1/6W	
	R 792	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R 793	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R 794	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R 795	QRD167J-4R7	CARBON RESISTOR	4.7 5% 1/6W	
	R 796	QRD161J-183	CARBON RESISTOR	18K 5% 1/6W	
	R 797	QRD161J-913	CARBON RESISTOR	91K 5% 1/6W	
	R 798	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R 799	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 901	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 902	QRD161J-563	CARBON RESISTOR	56K 5% 1/6W	
	R 903	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 904	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 906	QRD161J-563	CARBON RESISTOR	56K 5% 1/6W	
	R 907	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 908	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	R 909	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 910	QRD161J-563	CARBON RESISTOR	56K 5% 1/6W	
	R 911	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 912	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 913	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	R 915	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 916	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 917	QRD161J-220	CARBON RESISTOR	22 5% 1/6W	
	R 919	QRD161J-563	CARBON RESISTOR	56K 5% 1/6W	
	R 920	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 921	QRD161J-100	CARBON RESISTOR	10 5% 1/6W	
	R 999	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	RP101	QRD161J-334	CARBON RESISTOR	330K 5% 1/6W	
	RP102	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	RP103	QRD161J-151	CARBON RESISTOR	150 5% 1/6W	
	RP201	QRD161J-334	CARBON RESISTOR	330K 5% 1/6W	
	RP202	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	RP203	QRD161J-151	CARBON RESISTOR	150 5% 1/6W	
	RP301	QRD161J-221	CARBON RESISTOR	220 5% 1/6W	
	S 302	PS-62D13-S	PUSH SWITCH	PS-62D13-S	
	S 303	SK-23E01-G9	SLIDE SWITCH	SK-23E01-G9	
	S 304	PS-22E07	PUSH SWITCH	PS-22E07	
	S 851	ESS1200-002	SWITCH		
	T 301	OH-812320	BIAS OSC COIL		
	TRAY	RF-500TB-12560	MOTOR		
	VR301	RK14K12A0-10KA	VOLUME	RK14K12A0(10KAX	
	VR302	RK14K12A0-50KA	VOLUME	RK14K12A0(50KAX	
	VR303	QVPA601-102	SEMI.V.RESISTOR		
	X 701	M1ZCRHF4.19	CERA LOCK		
	ZD903	MTZ5.6JB	ZENER DIODE		
	ZD904	MTZ5.6JB	ZENER DIODE		
	ZD905	MTZ6.8JC	ZENER DIODE		

■ CD amplifier board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VMW1412 P12
T12
IC601
IC604
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IC502
CN601
CN501
X601
VR501
Q591
Q501
Q581
TP503 (TE)
TP505 (FE)
TP502 (RF)
TP501 (VREF)
TP504
TP601 DG
TP602 +B
TP603 5V
TP604
TP605
TP606
FW501
FW602
FW603
POWER DRIVER
REST
BUS1
BUS3
BUCK
SAFETY
BUS0
BUS2
CCE
XRST
FD+
GND
SP+
SP-
REST
FD-
DG
+B
L
AG
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Fig. 8 – 4

● CD amplifier board parts list

BLOCK NO. 04

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	C 501	QCBB1HK-821Y	C.CAPACITOR	820PF 10% 50V	
	C 503	QCVB1CN-103Y	C.CAPACITOR	.010MF 30% 16V	
	C 504	QEK41EM-106	E.CAPACITOR	10MF 20% 25V	
	C 511	QCSB1HJ-3R9	C.CAPACITOR	3.9PF 10% 50V	
	C 512	QCS31HJ-270Z	C.CAPACITOR	27PF 5% 50V	
	C 513	QFV41HJ-104ZM	FILM CAPACITOR	.10MF 5% 50V	
	C 514	QFN41HJ-472	M.CAPACITOR	4700PF 5% 50V	
	C 521	QCBB1HK-331Y	C.CAPACITOR	330PF 10% 50V	
	C 522	QFV81HJ-473	FILM CAPACITOR	.047MF 5% 50V	
	C 523	QFV81HJ-154	FILM CAPACITOR	.15MF 5% 50V	
	C 524	QEK41EM-106	E.CAPACITOR	10MF 20% 25V	
	C 525	QEK41EM-106	E.CAPACITOR	10MF 20% 25V	
	C 529	QETC1AM-336ZN	E.CAPACITOR	33MF 20% 10V	
	C 531	QCVB1CM-822Y	C.CAPACITOR	8200PF 20% 16V	
	C 541	QCBB1HK-101Y	C.CAPACITOR	100PF 10% 50V	
	C 542	QFV71HJ-103	FILM CAPACITOR	.010MF 5% 50V	
	C 543	QFV41HJ-393ZM	FILM CAPACITOR	.039MF 5% 50V	
	C 545	QETC1HM-225ZN	E.CAPACITOR	2.2MF 20% 50V	
	C 546	QFV81HJ-223	FILM CAPACITOR	.022MF 5% 50V	
	C 547	QETB1HM-225	E.CAPACITOR	2.2MF 20% 50V	
	C 561	QET41AM-476	E.CAPACITOR	47MF 20% 10V	
	C 562	QET41HM-475	E.CAPACITOR	4.7MF 20% 50V	
	C 581	QET41AM-477	E.CAPACITOR	470MF 20% 10V	
	C 582	QET41AM-476	E.CAPACITOR	47MF 20% 10V	
	C 591	QCC11EM-104V	C.CAPACITOR	.10MF 20% 25V	
	C 592	QFV41HJ-104ZM	FILM CAPACITOR	.10MF 5% 50V	
	C 593	QFV41HJ-104ZM	FILM CAPACITOR	.10MF 5% 50V	
	C 599	QET41AM-107	E.CAPACITOR	100MF 20% 10V	
	C 601	QCS11HJ-220	C.CAPACITOR	22PF 5% 50V	
	C 602	QCS11HJ-220	C.CAPACITOR	22PF 5% 50V	
	C 603	QCC11EM-104V	C.CAPACITOR	.10MF 20% 25V	
	C 604	QCC11EM-104V	C.CAPACITOR	.10MF 20% 25V	
	C 605	QCVB1CN-103Y	C.CAPACITOR	.010MF 30% 16V	
	C 606	QCC11EM-473V	C.CAPACITOR	.047MF 20% 25V	
	C 607	QCC11EM-473V	C.CAPACITOR	.047MF 20% 25V	
	C 608	QCC11EM-473V	C.CAPACITOR	.047MF 20% 25V	
	C 609	QCC11EM-473V	C.CAPACITOR	.047MF 20% 25V	
	C 611	QCS11HJ-101	C.CAPACITOR	100PF 5% 50V	
	C 612	QFV71HJ-103	FILM CAPACITOR	.010MF 5% 50V	
	C 613	QFV71HJ-103	FILM CAPACITOR	.010MF 5% 50V	
	C 614	QFN41HJ-332	M.CAPACITOR	3300PF 5% 50V	
	C 615	QFN41HJ-332	M.CAPACITOR	3300PF 5% 50V	
	C 616	QCC11EM-103V	C.CAPACITOR	.010MF 20% 25V	
	C 631	QET41AM-107	E.CAPACITOR	100MF 20% 10V	
	C 632	QET41AM-107	E.CAPACITOR	100MF 20% 10V	
	C 651	QET41AM-107	E.CAPACITOR	100MF 20% 10V	
	C 652	QET41CM-226	E.CAPACITOR	22MF 20% 16V	
	C 661	QCBB1HK-151Y	C.CAPACITOR	150PF 10% 50V	
	C 662	QCBB1HK-151Y	C.CAPACITOR	150PF 10% 50V	
	C 663	QCS11HJ-120	C.CAPACITOR	12PF 5% 50V	
	C 671	QCBB1HK-151Y	C.CAPACITOR	150PF 10% 50V	
	C 672	QCBB1HK-151Y	C.CAPACITOR	150PF 10% 50V	
	C 673	QCS11HJ-120	C.CAPACITOR	12PF 5% 50V	
	CN501	EMV7144-015R	15PIN CONNECTOR		
	IC501	TA8191F	IC	FOCUS/TRCKING S	
	IC502	BA6398FP	IC	REGULATOR	
	IC601	TC9284BF	IC	I-CHIP PROCESSO	
	IC604	BA15218N	IC	BUFFER	
	Q 501	2SA952(L,K)	TRANSISTOR		
	Q 581	2SA952(L,K)	TRANSISTOR		
	Q 591	2SA1175	TRANSISTOR		
	R 501	QRD161J-124	CARBON RESISTOR	120K 5% 1/6W	
	R 502	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 504	QRD161J-202	CARBON RESISTOR	2.0K 5% 1/6W	
	R 505	QRD161J-100	CARBON RESISTOR	10 5% 1/6W	
	R 506	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	R 507	QRD161J-120	CARBON RESISTOR	12 5% 1/6W	
	R 511	QRD161J-183	CARBON RESISTOR	18K 5% 1/6W	
	R 512	QRD161J-392	CARBON RESISTOR	3.9K 5% 1/6W	
	R 513	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	R 514	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R 515	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 516	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 517	QRD161J-202	CARBON RESISTOR	2.0K 5% 1/6W	
	R 518	QRD161J-335YT	CARBON RESISTOR	3.3M 5% 1/6W	
	R 521	QRD161J-154	CARBON RESISTOR	150K 5% 1/6W	
	R 522	QRD161J-392	CARBON RESISTOR	3.9K 5% 1/6W	
	R 523	QRD161J-331	CARBON RESISTOE	330 5% 1/6W	
	R 524	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R 525	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R 529	QRD167J-562	CARBON RESISTOR	5.6K 5% 1/6W	
	R 531	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R 532	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R 533	QRD161J-153	CARBON RESISTOR	15K 5% 1/6W	
	R 541	QRD161J-123	CARBON RESISTOR	12K 5% 1/6W	
	R 542	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	R 543	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R 544	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 545	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 548	QRD161J-153	CARBON RESISTOR	15K 5% 1/6W	
	R 549	QRD161J-821	CARBON RESISTOR	820 5% 1/6W	
	R 550	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R 551	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 552	QRD167J-562	CARBON RESISTOR	5.6K 5% 1/6W	
	R 553	QRD161J-821	CARBON RESISTOR	820 5% 1/6W	
	R 555	QRD161J-392	CARBON RESISTOR	3.9K 5% 1/6W	
	R 559	QRD161J-125	CARBON RESISTOR	1.2M 5% 1/6W	
	R 561	QRD167J-562	CARBON RESISTOR	5.6K 5% 1/6W	
	R 562	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 563	QRD161J-152	CARBON RESISTOR	1.5K 5% 1/6W	
	R 564	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	R 565	QRD161J-683	CARBON RESISTOR	68K 5% 1/6W	
	R 566	QRD161J-273	CARBON RESISTOR	27K 5% 1/6W	
	R 583	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	R 584	QRD161J-152	CARBON RESISTOR	1.5K 5% 1/6W	
	R 591	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R 611	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 612	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 613	QRD161J-224	CARBON RESISTOR	220K 5% 1/6W	
	R 614	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R 615	QRD161J-225	CARBON RESISTOR	2.2M 5% 1/6W	
	R 616	QRD161J-333	CARBON RESISTOR	33K 5% 1/6W	
	R 651	QRD161J-820	CARBON RESISTOR	82 5% 1/6W	
	R 652	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R 653	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R 661	QRD161J-184	CARBON RESISTOR	180K 5% 1/6W	
	R 662	QRD161J-184	CARBON RESISTOR	180K 5% 1/6W	
	R 663	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R 664	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R 665	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 666	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 671	QRD161J-184	CARBON RESISTOR	180K 5% 1/6W	
	R 672	QRD161J-184	CARBON RESISTOR	180K 5% 1/6W	
	R 673	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R 674	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R 675	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 676	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 691	QRD161J-681	CARBON RESISTOR	680 5% 1/6W	
	R 692	QRD161J-681	CARBON RESISTOR	680 5% 1/6W	
	R 693	QRD161J-681	CARBON RESISTOR	680 5% 1/6W	
	R 694	QRD161J-681	CARBON RESISTOR	680 5% 1/6W	
	R 695	QRD161J-681	CARBON RESISTOR	680 5% 1/6W	
	R 696	QRD161J-681	CARBON RESISTOR	680 5% 1/6W	
	R 697	QRD161J-681	CARBON RESISTOR	680 5% 1/6W	
	VR501	QVPA601-154A	V RESISTOR	TRACKING OFFSET	
	X 601	CSA16.93MXZ040T	CERA LOCK		

9. Exploded View of Enclosure Assembly

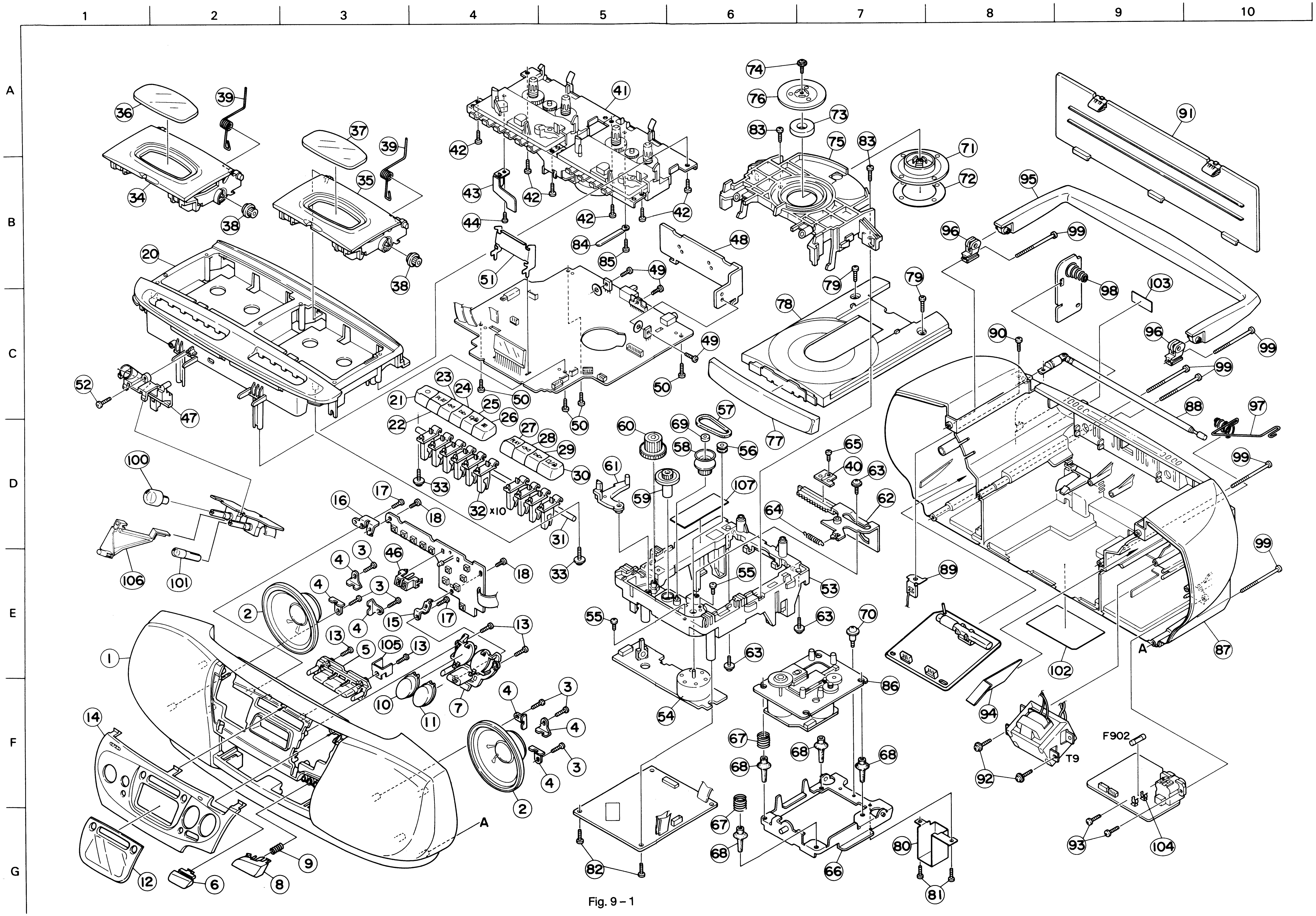
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Fig. 9 – 1

● Enclosure component parts list

BLOCK NO. M1MM

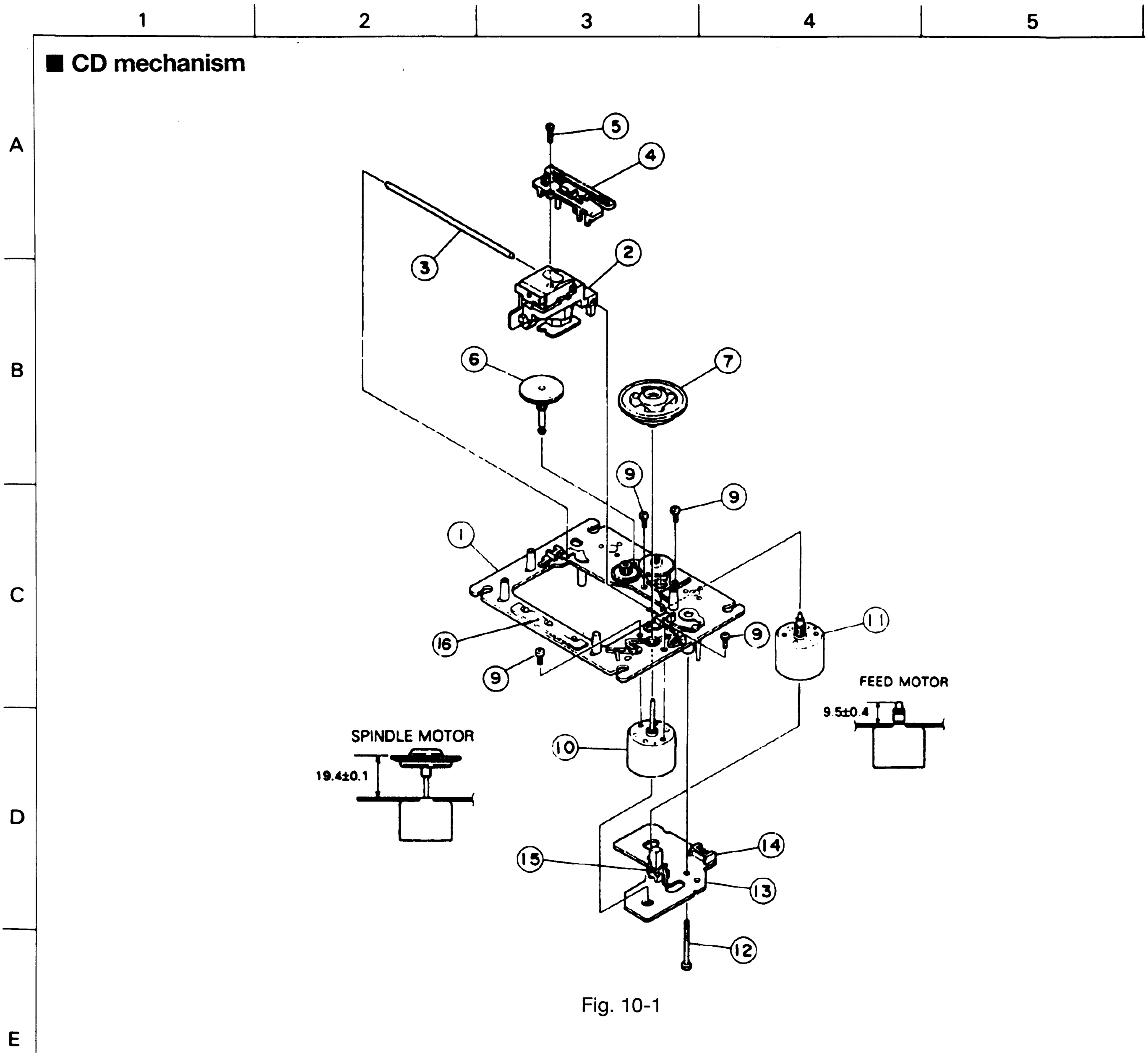
⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	1	VJG1373-00A	FRONT C.ASS'Y		1		
	2	C100K21N1910	SPEAKER	37003-002-00-04	2		
	3	SBSF3008Z	SCREW	FOR SPEAKER	6		
	4	50010-133-00-01	SPEAKER CLIP	50010-133-00-01	6		
	5	VXP3737-001	CD SEARCH BUTTO	40010-204-00-01	1		
	6	VXP3743-001	POWER BUTTON	40010-205-00-01	1		
	7	VXP2114-001	FUNCTION BUTTON	40010-201-00-01	1		
	8	VXP3744-001	CD EJECT BUTTON	40010-206-00-01	1		
	9	VKW5215-002	COMPRESSION SPR	71100-046-01-01	1		
	10	VJK3673-003	CD BUTTON LENS	40010-343-00-01	1		
	11	VJK3674-003	RADIO B. LENS	40010-344-00-01	1		
	12	VJK3671-003	LCD LENS	40010-345-00-01	1		
	13	SBSF2608Z	SCREW	FOR BUTTON	4		
	14	VJD2464-00A	F.COVER ASS'Y		1		
	15	VKL7817-001	SW PWB BKT(A)	50010-131-00-01	1		
	16	VKL7818-001	SW PWB BKT(B)	50010-132-00-01	1		
	17	SBSF2608Z	SCREW	FORSWBKT+F.CABI	2		
	18	SDSP3006Z	SCREW	FOR SW PWB + BK	2		
	20	VJD1204-003	TOP COVER	40010-451-00-01	1		
	21	VXP2112-001	MECH BUTTON	40010-207-00-01	1		
	22	VXP2112-002	MECH BUTTON	40010-208-00-01	1		
	23	VXP2112-003	MECH BUTTON	40010-209-00-01	1		
	24	VXP2112-004	MECH BUTTON	40010-210-00-01	1		
	25	VXP2112-005	MECH BUTTON	40010-211-00-01	1		
	26	VXP2112-006	MECH BUTTON	40010-212-00-01	1		
	27	VXP2112-007	MECH BUTTON	40010-213-00-01	1		
	28	VXP2112-008	MECH BUTTON	40010-214-00-01	1		
	29	VXP2112-009	MECH BUTTON	40010-215-00-01	1		
	30	VXP2112-010	MECH BUTTON	40010-216-00-01	1		
	31	VYH7877-001	SHAFT	71200-010-01-00	1		
	32	VYH8006-001	BUTTON LEVER	40010-652-00-01	10		
	33	E65923-003	TAPPING SCREW		2		
	34	VJT2361-001	CASSETTE DOOR(L	40010-301-00-01	1		
	35	VJT2362-001	CASSETTE DOOR(R	40010-302-00-01	1		
	36	VJT3378-005	DOOR LENS(L)	40010-341-00-01	1		
	37	VJT3378-006	DOOR LENS(R)	40010-342-00-01	1		
	38	VYH8007-001	GEAR	40010-604-00-01	2		
	39	VKW5213-002	DOOR SPRING(L)	41100-044-01-01	2		
	40	VE406291-001	PLATE	40010-507-00-01	1		
	41	-----------	CASSETTE MECHA		1		
	42	SBSF3010Z	SCREW	FOR CASS.MECHA	6		
	43	VKY4718-001	REC SPRING	71100-043-01-01	1		
	44	SDST2003Z	SCREW	FOR REC SPRING	1		
	46	VKS5543-001	LED HOLDER	40010-501-00-01	1		
	47	VKS3743-001	VOLUME HOLDER	40010-502-00-01	1		
	48	VYH3900-002	HEAT SINK	78000-007-02-00	1		
	49	SDSP3008Z	SCREW	FOR IC,TR.	3		
	50	SBSF3010Z	SCREW	MAIN+TOP COVER	4		
	51	VKL7813-001	LCD HOLDER	50010-136-00-01	1		
	52	SBSF3010Z	SCREW	VOL.HOLDER+TOP	1		
	53	VYH1255-001	LOADING BASE	40010-506-00-01	1		
	54	RF-500TB-12560	MOTOR		1		
	55	SPSK2640Z	MINI SCREW	FOR MOTOR	2		
	56	VE75984-001	MOTOR PULLEY	40010-681-00-01	1		
	57	VE75950-002	BELT	77100-003-01-00	1		

BLOCK NO. M1MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	58	VE75985-001	GEAR(1)	40010-601-00-01	1		
	59	VE75986-002	GEAR(2)	40010-602-00-01	1		
	60	VE75987-001	GEAR(3)	40010-603-00-01	1		
	61	VE307162-001	LEVER	40010-651-00-01	1		
	62	VE307160-001	CAM	40010-653-00-01	1		
	63	E65923-003	TAPPING SCREW		3		
	64	VYH7787-001	SPRING	71100-049-01-01	1		
	65	SBSF3008Z	SCREW		1		
	66	VE307179-002	E.BASE ASS'Y	50010-134-00-01	1		
	67	E406871-001	SPRING	71100-047-01-01	2		
	68	VE406294-002	INSULATOR	76402-002-01-01	4		
	69	VE60912-001	SPEED NUT	40010-441-00-01	1		
	70	E406293-001	SPECIAL SCREW	70326-600-01-02	1		
	71	VYH3901-001	CLAMPER	40010-505-00-01	1		
	72	VYH7315-005	PAD	76300-014-02-02	1		
	73	VYH7313-004	MAGNET	505-021201-01	1		
	74	GBSF2606Z	SCREW	70026-726-06-52	1		
	75	VYH2314-001	CLAMPER BASE	40010-508-00-01	1		
	76	VYH3764-001	CLAMPER PLATE	50010-101-00-01	1		
	77	VJD2462-003	CD FITTING	40010-303-00-01	1		
	78	VYH1256-001	TRAY	40010-104-00-01	1		
	79	SBSF3008Z	SCREW	FOR TRAY STOPPE	2		
	80	VMA4660-001	SHIELD CASE	50010-135-00-01	1		
	81	SDSR2606Z	SCREW	SHIELD CASE+CD	2		
	82	SBSF3008Z	SCREW		2		
	83	SBSF3008Z	SCREW	CLAMPER BASE+L.	2		
	84	VKZ4001-110	WIRE CLAMP		1		
	85	SDST3006Z	SCREW		1		
	86	-----------	CD MECHA ASS'Y		1		
	87	VJG1374-001	REAR CABINET	40010-102-00-01	1		
	88	215-021704-00	ROD ANTENNA ASS	77001-002-01-02	1		
	89	VKL7814-001	TERMINAL LUG	50010-103-00-01	1		
	90	SDSP3012N	SCREW	FOR ROD ANT.	1		
	91	VJC2554-001	BATTERY COVER	40010-452-00-01	1		
	92	GBSF3016Z	SCREW	FOR TRANS	2		
	93	SBSF3010Z	SCREW	FOR AC	2		
	94	VYH8055-001	SHIELD PLATE		1		
	95	VJH2015-001	HANDLE	40010-391-00-01	1		
	96	VYH8008-001	HANDLE SUPPORTE	40010-503-00-01	2		
	97	VKW5212-001	BATTERY SPRING	71100-050-01-01	1		
	98	207-0Q3305-00	BATTERY SPRING	71100-048-01-01	1		
	99	SBSF3040Z	SCREW	FRONT+REAR	6		
	100	VXL4443-001	VOLUME KNOB	40010-202-00-01	1		
	101	VXL4444-001	TONE KNOB	40010-203-00-01	1		
	102	VYN5195-002	NAME PLATE	77200-217-01-01	1	B	
		VYN5195-005	NAME PLATE		1	E,EN	
		VYN5195-008	NAME PLATE		1	G	
		VYN5195-015	NAME PLATE		1	GI	
	103	E70891-001	CLASS 1 LABEL		1		
	104	124-200005-00	FUSE HPLDER	FOR F902	2		
	105	VKL7836-001	SW PCB SUPP.BKT	50010-137-00-01	1		
	106	VXP3745-001	B.B.KNOB	40020-201-00-01	1		
	107	E406709-001	CAUTION LABEL	LASER CAUTION	1		
	F 902	QMF51E2-2R5J1	FUSE	2.5A 250V	1		
	T 9	33657-021-01-06	POWER TRANS	V-2409T-B	1		

10. Exploded View of Mechanism Assembly

■ CD mechanism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FEED MOTOR
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SPINDLE MOTOR
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Fig. 10-1

● CD mechanism parts list

BLOCK NO. M3MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	1	EPB-002A	MECHA.BASE ASSY		1		
	2	OPTIMA-6S	PICKUP ASS'Y		1		
	3	E406777-001	GAIDE SHAFT		1		
	4	E307746-001	CD RACK		1		
	5	SDSF2006Z	SCREW	CD LACK ASS'Y	1		
	6	EPB-003A	MECHA GIAR		1		
	7	E75807-301	CD T.TABLE ASSY		1		
	9	SDSP2003N	SCREW	FOR MOTOR	2		
	10	E406783-001	SP MOTOR	SPINDL MOTOR	1		
	11	E406784-001SA	MOTOR ASS'Y	FEED MOTOR	1		
	12	E75832-001	S.SCREW	M.REAF SWITCH	1		
	13	EMW10190-001	P.C.BOARD	LEAF SWITCH	1		
	14	EMV5109-006B	6P PLUG ASSY		1		
	15	ESB1100-005	LEAF SWITCH		1		
	16	E407212-001	DAMPER		1		

■ Cassette mechanism assembly

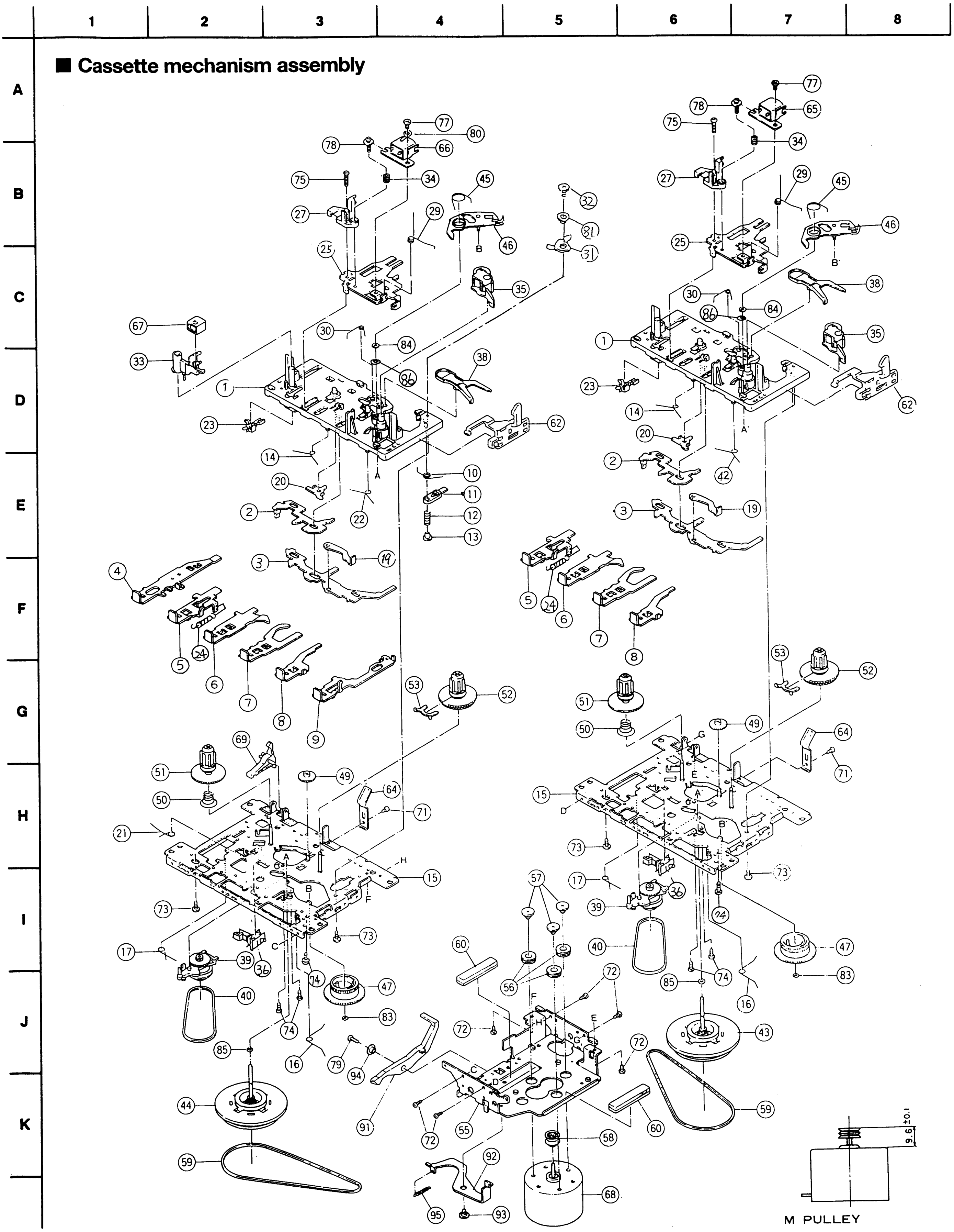
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Fig. 10-2

● Cassette mechanism component parts list

BLOCK NO. M2MM☐☐☐

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	1	192114301ZT	BASE ASS'Y		2		
	2	19211409T	SWITCH ACTUATOR		2		
	3	19211408T	LOCK CAM		2		
	4	19211422T	BUTTON LEVER	REC	1		
	5	19211484T	BUTTON LEVER	PLAY	2		
	6	19211424T	BUTTON LEVER	REW	2		
	7	19211425T	BUTTON LEVER		2		
	8	19211426T	BUTTON LEVER	STOP	2		
	9	19211461T	BUTTON LEVER	PAUSE	1		
	10	19211413T	P CONT. SPRING	P CONTROL	1		
	11	19211482T	PAUSE LEVER E		1		
	12	19211412T	SPRING	PAUSE LEVER	1		
	13	19211411T	PAUSE STOPPER		1		
	14	19211414T	TORSION SPRING	BUTTON LEVER	2		
	15	192101501ZT	CHASSIS ASS'Y		2		
	16	19211416T	TORSION SPRING	ACTUATOR SPRING	2		
	17	19211417T	TORSION SPRING	LEVER SPRING	2		
	19	182101159T	E.KICK LEVER		2		
	20	19211420T	STOPPER		2		
	21	19211421T	TORSION SPRING	REC BUTTON	1		
	22	19211415T	TORSION SPRING	BUTTON LEVER	1		
	23	MSW-1541T	LEAF SWITCH	MSW-1541T	2		
	24	18210150T	PLAY BUTTON LEV	PLAY BUTTON	2		
	25	19210311T	HEAD PANEL		2		
	27	19210304AT	HEAD BASE		2		
	29	19210309T	PANEL P SPRING		2		
	30	19211418AT	SPRING		2		
	31	19211434T	P.ROLLER ARM		1		
	32	99992041T	SPECIAL SCREW	M2 X 3	1		
	33	19210305T	MAGNET HEAD ARM		1		
	34	18210307T	AZIMUTH SPRING		2		
	35	192104309T	P.ROLL. ARM ASY	PINCH ROLLER	2		
	36	640101161T	LEAF SWITCH	MSW-17820MVD0	2		
	38	19212604TT	SENSING LEVER		2		
	39	192107308T	RF CLUTCH ASS'Y		2		
	40	18210711T	RF.BELT		2		
	42	19211433T	TORSION SPRING	BUTTON L.S.(C)	1		
	43	192109304ZT	FLYWHEEL ASS'Y		1		
	44	192109303ZT	FLYWHEEL ASS'Y		1		
	45	19212605T	TORSION SPRING	GEAR PLATE	2		
	46	192126502ZT	GEAR PLATE ASSY		2		
	47	19212602T	CAM GEAR		2		
	49	18211070T	F.FORWARD GEAR		2		
	50	18211099T	BACK TENSION SP	BACK TENSION	2		
	51	192105304T	S. REEL ASS'Y	SUPPLY	2		
	52	192105303T	T. REEL ASS'Y	TAKE UP	2		
	53	19210506T	SENSOR		2		
	55	19211211T	MOTOR BRACKET		1		
	56	18211266T	MOTOR RUBBER		3		
	57	18511418T	COLLAR SCREW		3		
	58	19211213T	MOTOR PULLEY		1		
	59	19210924T	MAIN BELT		2		
	60	19211212T	MAT		2		
	62	19211301T	EJ. SLIDE LEVER		2		

BLOCK NO. M2MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	64	18291001T	PACK SPRING		2		
	65	MS18R-AK0N1	PB HEAD		1		
	66	MS15R-AA2N1	PEC/PB HEAD		1		
	67	PH-K380-MS1-6A	ERASE HEAD		1		
	68	60020222T	W/MOTOR		1		
	69	18211069T	REC.SAF.LEVER		1		
	71	91790000T	TAPPING SCREW	M2 X 3	2		
	72	91800000T	SCREW	M2 X 4	6		
	73	96790000T	TAPPING SCREW	M2 X 5	4		
	74	99991809T	SPECIAL SCREW	M2 X 4.5	6		
	75	90040000T	SCREW(M2 X 6)	M2 X 6	2		
	77	91150000T	SCREW(M2 X 3)	M2 X 3	2		
	78	99220000T	SCREW(M2 X 7)	M2 X 7	2		
	79	9P0420061T	SCREW	M2 X 6	1		
	80	94800000T	LUG		1		
	81	19211437T	P ARM COLLAR		1		
	83	94220000T	P.WASHER	1.2X3.8X0.3	2		
	84	99990313T	POLY.CUT WASHER	1.45X3.8X0.5	2		
	85	97860000T	POLY WASHER	2X3.5X0.3	2		
	86	99990003T	POLYSLIDER WAS.	2.1X4X0.13	2		
	91	19211209T	P.KICK LEVER(B)		1		
	92	18211268T	P.KICK LEVER		1		
	93	18211223T	COLLAR SCREW		1		
	94	18211265T	COLLAR (B)	P KICK LEVER	1		
	95	18211225T	SPRING		1		

11. Illustration of Packing and Parts List

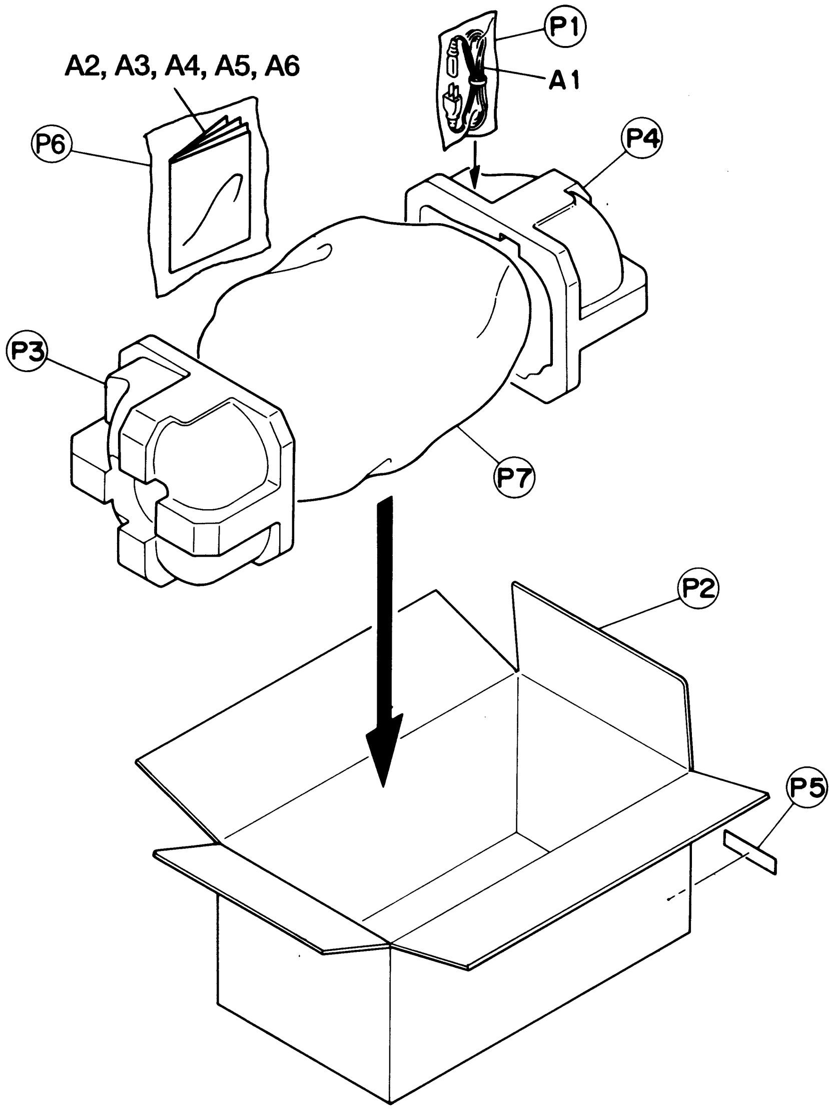

Fig. 11 – 1

● Packing parts list

BLOCK NO. M4MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	P 1	QPGA012-02505	POLY BAG	FOR POWER CORD	1		
	P 2	VPC5195-002	CARTON	50010-562-03-01	1		
	P 3	VPH1678-001	CUSHION (L)	50010-601-00-01	1		
	P 4	VPH1678-002	CUSHION (R)	50010-602-00-01	1		
	P 5	-----------	CARTON LABEL		1		
	P 6	VPE3026-004	POLY BAG	FOR INSTRUCTION	1		
	P 7	VPE3020-028	POLY BAG	FOR SET	1		

Accessories

BLOCK NO. M4MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	A 1	QMP39F0-183	POWER CORD		1	E,EN,G,GI	
		QMP5520-183BS	POWER CORD	35041-183-21-14	1	B	
	A 2	VNN5195-671	INSTRUCTIONS	77301-050-01-01	1	B	
		VNN5195-251	INSTRUCTIONS		1	E,GI	
		VNN5195-261	INSTTUCTIONS		1	E,EN,G	
		VNN5195-271	INSTRUCTIONS		1	EN	
	A 3	BT-54003-1	WARRANTY CARD		1	B	
		BT-20135	WARRANTY CARD		1	G	
	A 4	BT-20066A	SEAVICE CENTER		1	B	
	A 5	E43486-340B	SAFETY INST SHE		1	B	
	A 6	E43486-688A	CAUTION SHEET	FOR GI CAUTION	1	E	

JVC

VICTOR COMPANY OF JAPAN, LIMITED
AUDIO PRODUCTS DIVISION 10-1, 1-chome, Ohwatari-machi, Maebashi-city, Japan

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